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United States Department of Agriculture

Extension review

Electronic
Communications



ACE Teleconference: The High Tech Frontier

Each of us faces the formidable task of attempting to keep up with and make use of developments in electronic communications. We read the literature, attend users groups, participate in seminars and workshops, share information with colleagues, and use electronic communications methods regularly. Many of us belong to professional organizations that focus on or include training in communications.

One such group, Agricultural Communicators in Education (ACE), an international professional organization of agricultural communicators including many USDA and land-grant staff members, held two nationwide audio teleconferences on March 21, 1984. These were part of regional meetings at four "interactive" sites with 16 additional state sites participating on a "listen-only" basis.

ACE sponsored the teleconferences in an ongoing effort to keep its members up to date with fast-breaking changes, advances, and challenges in electronic communications nationwide.

The first conference featured Charles Lecht, president of Lecht Sciences, Inc., a New York based "think tank" specializing in computer and communications technology. Lecht, a regular columnist in *Computerworld*, is a noted consultant and speaker on the emerging communications networks now challenging us.

Electronics at Our Fingertips

In his conversation with ACE members, Lecht described the development of the "whatchamacallit," an integrated personal multipurpose machine composed of the television set, the typewriter, and the personal computer, plus other types of electronic add-ons that will put all types of creative tasks literally at our fingertips, at home, on the road, in the office. He further talked of the growth of massive macroland computer/com-

munications systems, or Integrated Services Digital Networks (ISDN), that will nourish and be nourished by our personal multipurpose machines.

"Imagine," Lecht invited ACE participants, "having your own personal whatchamacallit providing such integrated services as may currently be found only through AT&T, the Post Office, IBM, a secretarial service, a music/video recording studio, and a TV/radio station—all in one room." Lecht believes that the emerging sea of options will "profoundly improve how we see, hear, and speak to one another. They will change the way we think."

Stay on the Cutting Edge

When asked how an organization can stay on the cutting edge, Lecht stressed functioning as a pump in a large network, making information available, and transmitting it back and forth.

Diane M. Gyeski and David V. Williams, a husband and wife consulting team, were the presentors for the second teleconference. On the staff at Ithaca College, New York, they also operate OmniCom Associates, and consult on the impact of new information technologies on individuals and organizations.

They took as a topic: "When to Change—Analyzing/Using New Communications Technologies."

Precise Formats

Gyeski and Williams described their perspective as coming from an electronic cottage where they specialize in interactive technology and how individuals can use it. They see design skills as essential in interactive video.

When asked how to change our traditional educational methods, Gyeski and Williams explained that we have been conditioned to linear messages in which a television producer directs our attention. In inter-

active video, users are doing the final edit, choosing what they want from the smorgasbord presented to them. A user could design 5, 10, or 30 messages from the original program.

More Human Interaction

They believe that the technology creates the need for more, not less, human interaction, that the user can have an ongoing relationship with the author of an interactive video program, for example, and that the author could review the user's questions and gain a deeper understanding of the subject.

Following completion of the second teleconference, ACE members continued discussion engendered by the lively presentations, and they critiqued the two teleconferences for the national ACE committee that planned them. For those of you who've not tried audio teleconferencing, consider it as an economical and stimulating way to bring together people who might otherwise not get the opportunity and to obtain presentations by experts whose fees might otherwise not be affordable.

In this issue we explore several dimensions of the rapidly developing field that is electronic communications today. The special emphasis is on you, the Extension professional, as you use communications skills and technologies to go about your daily work more efficiently and effectively. Across the board, in every area of Extension work at the national, state, and local levels, you are molding these technologies to meet your needs, to expand your outreach to clientele, and to streamline your operations. During these times of limited budgets and staff, you are discovering new, creative ways to get the job done and to get it done well. These articles reflect your expertise and may well simulate its further development. We invite your response to them, or further comments, on AGS096. □

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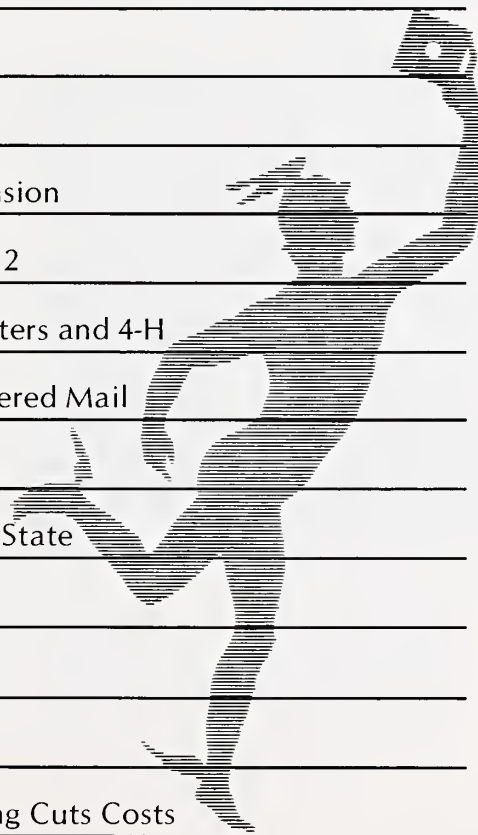
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Sky Eye Scans Land

Julia C. Graddy
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A fast-growing Florida county is applying satellite photography as a tool to gather basic land use information and to analyze urban planning and land use problems.

Sunning itself on Florida's southwest coast, Charlotte County is blessed with a tropical climate, natural harbor, and powder sand Gulf beaches. Natural attractions like these more than doubled the population between 1970 and 1980.

Citrus groves, cattle ranches, and some vegetable and flower growers still dominate the eastern interior of the county, while urban pursuits of tourism and construction concentrate themselves on the Gulf Coast. Distance still provides a buffer between the two, although rising land prices tell a familiar story of pressure on the agriculturalist.

Strain on Resources

Unfortunately, the population boom, while bringing jobs to boost the country's economy, also puts strains on limited natural resources as well. Jan Masteryanni, Charlotte County Extension Service director, shares concern with county planners and local government officials about limited resources like fresh water, and about problems such as salt water intrusion, sewage, and adequate drainage. "We know that planners and policymakers don't have all the information they need to make the wisest land use and urban planning decision," she explains. "The obvious assumption we make is that in boom times like these, growth happens in places that sometimes don't make the best use of limited natural resources," says Masteryanni.

But knowing that and having the ability to measure growth in graphic form are two different things. Enter the remarkable tool of remote sensing satellite photography.



"Remote sensing photography can solve large-scale problems that are difficult to do otherwise," says Doug Jordan, a researcher with the Institute of Food and Agricultural Sciences (IFAS) at the University of Florida in Gainesville. Jordan operates the computer-driven analysis equipment at UF's Remote Sensing Lab. The system, on permanent loan under a memorandum of agreement with Kennedy Space Center, is capable of analyzing NASA's LANDSAT satellite snapshots, which photograph the entire earth's surface every 18 days. Currently, about 13 years of information are available for study.

LANDSAT's Earth Views

Remote sensing works on the principle that any land feature, whether citrus grove, marsh, or pine forest, reflects differing intensities of light. LANDSAT extends this principle by taking seven versions of each 100-square-nautical mile view it shoots, using a different light filter every time.

The camera divides each filter's shot into thousands of 1.1-acre grids called pixels. The value of the reflected brightness in each pixel is translated into a number. Thus, every filter sees

a slightly different "view" of the same scene. The developed LANDSAT photo beamed earthward arrives as a series of numbers, turned into a more conventional image by IFAS lab equipment. The system zeroes in on the pixels under study and compares them under several filters. The split-second comparison produces a unique set of numbers which becomes that earth feature's "signature."

A color is then assigned to the signature, and the computer can find and display that feature wherever it appears on the LANDSAT photo. Once the earth features are identified, up to eight or nine can be studied at a time by looking at one colorful map.

Pilot Project

To develop the Charlotte County pilot project, Jan Masteryanni tapped the expertise of the county planner and county appraiser, the 4-H horticulture and marine agents, and personnel from the Soil Conservation Service, the Agricultural Stabilization and Conservation Service, and the Florida Forestry Department.

"We decided to use the satellite data to find out how growth is affecting our land use—to look at changes in the land, development trends, and then to make some predictions," says Masteryanni.

The team settled on about 20 land features and vegetation types from which to study changes over the last 12 years. Included among them are urban areas, salt and fresh water marshes, virgin lands, wetlands, hard and softwood forests, and improved pastures.

With categories in mind, the tedious process of "ground-truthing" began. Armed with plat maps he painstakingly marked, Extension Agent Dave Lambert criss-crossed the county

many times, making sure that each land feature the group wanted studied actually appeared where they thought it did.

Fast Land Inventory

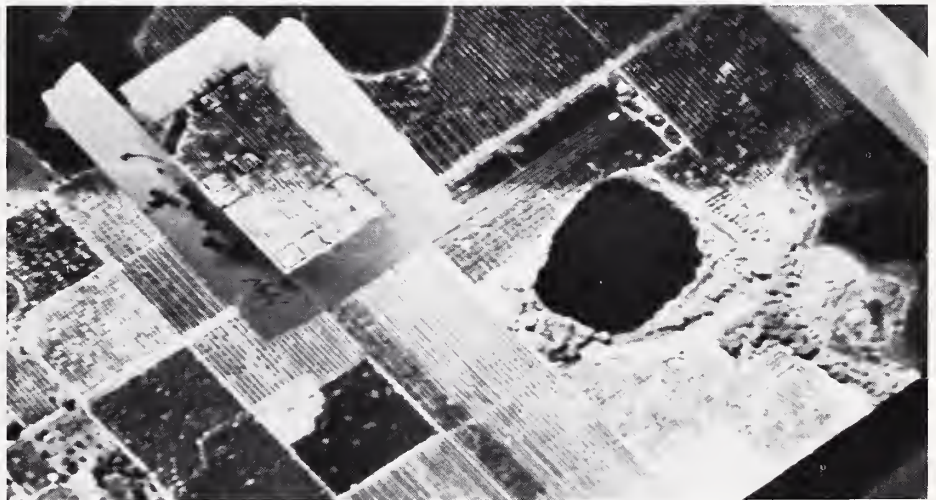
The marked maps are sent next to UF, where they will be used as a guide to match "signatures" against the LANDSAT views of the county. The computer work will pull together a fast inventory of county land use features in a comprehensive way never done before. And since maps from 1972 on will be studied, the group will also get a profile of changes in the county over time.

County Appraiser Merv Bilbrey is excited about the project. "This will enable us to see exactly where changes and growth are taking place and to keep track of it. We're hoping that we can make yearly updates. It's a real shortcut to look at these maps instead of physically walking a piece of dirt," he says.

Dave Lambert believes it's too early to know everything the project will mean for Charlotte County. "At first, we were just thinking this would give us basic information, like acreage counts for vegetation types. Now we realize we have a very valuable tool in planning programming, because it will tell us exactly what the ranchers and growers are having to deal with and help us keep up with changing conditions," he says.

Informed Land Decisions

Masteryanni agrees. She believes that at the very least the project will give policymakers an effective, graphic tool to help make better informed land use decisions, and provide a way to communicate previously difficult-to-measure data in simple form. □



Remote sensing photography is enabling urban planners to discover how growth is affecting land use in booming Charlotte County, Florida. Jan Masteryanni, county Extension Director, who helped develop the pilot project, consults with Doug Jordan, researcher, Institute of Food and Agricultural Sciences, at the University of Florida's Remote Sensing Laboratory.

Video County Update Scores

Jimmy Bonner
Extension Writer-Editor
Information Department
Mississippi State University

Getting information to county Extension staffs is the yeast that makes the dough rise. But the tricky part is getting that information, particularly production information, to county staffs in a timely, innovative fashion.

The Mississippi Cooperative Extension Service thinks it's found a tailor-made answer to the problem—using a videotape.

The tape, called "County Agent (CA) Update," features timely information on a variety of topics mailed directly to county agents on a weekly basis. The agents play back the tape using ½-inch Betamax units.

Production Information

"CA Update" gives county personnel the latest production information covering a wide variety of topics important to Mississippi agriculture. The tape is made available each week from early April to November during the crop production season.

Suggested by George Berry, district agent in Mississippi in 1981, this method of using videotapes to deliver immediate information is unique among Extension nationwide.

"County agents need quick, timely production information," Berry says. "The electronic media is tailor-made to show this kind of information, and we already had the video system in place to deliver it."

This innovative approach revolves around the input of subject matter specialists who provide necessary production information. Originally geared toward cotton and soybean production in the Mississippi Delta area, the video concept has expanded to include all major crops and livestock produced in the state.

Across the state, this concept of specialists to address timely production practices directly for county agents is being hailed as one of the most successful endeavors since installing county playback systems for educational purposes.

Having quick access to the latest production information using the videotape system has been adopted overwhelmingly by county agent users, many of whom weren't exactly overjoyed at first at the prospect of using this advanced technology.

Pilot Project

Mississippi first made the tapes available in 1981 to 27 counties on a pilot basis. A survey of those counties indicated agents believed it to be an exceptionally valuable tool in keeping them informed about the latest developments in technology and growing conditions.

"Many of our older county agents really weren't too excited about using video, but they turned out to be most enthusiastic about the program," says Dave Hutto, producer and director of "CA Update." "They use it on a regular basis and really look forward to getting the material."

Based on such positive response, Mississippi expanded the video concept statewide to include all 82 counties in 1982. Also based on agents' suggestions, the tape was expanded to include forestry, horticulture, landscaping, orchard management, animal science, beef and pork production, and other aspects of production agriculture.

"We found that county agents were really starving for current, timely information that could be presented in this kind of format," Hutto says.

Program Development

The program format follows an informal approach in which subject matter specialists give their recommendations on ways to control weeds, diseases, insects, and other production tips. Specialists also use the format to address immediate, specific problems.

"CA Update" is recorded in the Extension studio each Friday morning. Tapes usually run 30- to 40-minutes in length, although that may vary depending on the subject matter. Tapes are duplicated immediately, for 82 counties and district staffs, and are usually in the agents' hands by Monday morning.

The tapes are recorded using two Hitachi color cameras and a film chain capable of incorporating 16 mm film and 35 mm slides into the video production. Specialists use the slides, and also bring actual plants and other teaching aids into the studio, to illustrate their presentations.

The material is duplicated using an 8:1 ratio on the Beta I format. Each county office in Mississippi has a playback unit and a 19-inch color monitor on which to view the tapes.

The cost of developing and mailing each tape is less than \$13, which includes \$10 for the videotape and about \$2.30 for First Class mailing. Of course, the tapes are used over and over again, so total cost is much less.



Timely Information

Because the tape is provided each week, information sent to county staffs can be updated and adapted very quickly as growing conditions and local situations merit. That time factor is the key to the success of "CA Update".

"From the beginning, our philosophy was to deal with only timely and pertinent topics as they related to agricultural production," Hutto says. "We don't try to put together materials that have great longevity. We feel that as long as we take advantage of the need for current, relative information, the program will be successful and well used."

For county agents, "CA Update" provides that timely information in a format that is readily accessible. For subject matter specialists, it gives the opportunity to communicate special problems and needs.

Wayne Jordan, head of the Mississippi Extension Agronomy Department, uses the video concept as a

specialist to communicate anticipated problems during the production season.

"I accumulate several telephone calls a week about a particular problem, and I use 'County Agent Update' to address these problems," Jordan says. "We try to make sure that the information we give is always fresh, accurate, and to the point."

That fresh, timely approach on which the program is built is specifically the reason why county agents in Mississippi are so high on the videotape.

"I think this is one of the best training tools for weekly production practices we've had," County Agent Phil Nicols said of "CA Update." "This support and effort from our specialists are extremely helpful and appreciated."

"The tape is one of the most innovative attempts to communicate to agents in the field with 'need to know' information," agrees County Agent George Alley. "It's a job extremely well done."

Other Benefits

County agents also benefit because the video format is a welcome relief from mounds of printed materials covering the same topics. Plugging in the videotape every Monday morning is a lot easier than shuffling through printed material that agents may not have time to read.

And, while agents view the tapes and then pass the information on to their farmer clients, some invite farmers for a personal look at the latest production tips.

Hutto says one consideration in using the video format is the need for reliable and fast duplication equipment. Video duplication must be done in "real time," which means a 30-minute tape takes 30 minutes to duplicate.

"Duplicating speed must be gained by adding multiple copies," Hutto says. "We are now using eight duplicating videocassette recorders instead of six, which reduced our turnaround time considerably."

Another factor is that some subject matter specialists are more attuned to presenting information using the video format, while others may be less effective. Thus, it takes time to build a reliable resource pool from which to draw information.

Still, "CA Update" is considered a highly successful endeavor whose success has spilled over into subject matter areas. Similar videotapes featuring home economics programs are now being provided on a quarterly basis. A video administrative newsletter also has been developed dealing with office management tips, inservice training, and other materials. □

The Electronic Cattle Counter

Erin Stephenson
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Sometimes it takes a group of kids to introduce adults to the efficiencies of a modern world. Six Colorado 4-H'ers recently did just that by developing a computer program to catalog the El Paso County 4-H livestock sale.

Under the leadership of Rich Lewis and John Read, both of Digital Equipment Corporation Inc., Colorado Springs, Colorado, the kids from Mount Herman 4-H Club developed a computer program that was used at this year's livestock sale. The 4-H'ers involved were: Wendy Younger, 18; Scott Hittner, 15; Fred "Rusty" Schellman, 16; Lynn Abdella, 13; Anne Redner, 16; and Joe Redner, 15.

Read says the purpose of the computer project, which began in February was to teach the 4-H members technical programming skills. By using Digital computer equipment, the young people learned how to write a computer program, how to make the program run, and how to store and recall that data.

Computer Fears

Wendy Younger, a 10-year 4-H member who was also enrolled in sewing, crocheting, food preservation, and market beef projects this year, found the computer intimidating at the beginning of the project.



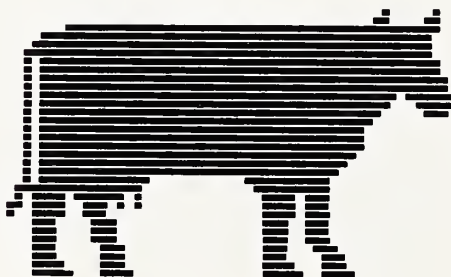
"Computers kind of scare me, but it's getting better. It just takes time," Wendy says. "When we first came down here to Digital, we learned one new thing every night. Then we went home and made up programs. We'd learn how to write a menu and we'd make up goofy ones at home. We made mistakes every single time. We kept experimenting with correcting mistakes. Then we'd make more when we were correcting them."

But according to Read, it's the mistakes the kids learned from.

He states, "Programming and learning to program are very much hands-on things. You've got to mess up to get better. You have to learn that you can't hurt the computer—short of blowing it up."

The sale program created by Rich Lewis for the El Paso County 4-H group was written in BASIC, Beginner's All-Purpose symbolic Instructional Code. In essence, BASIC is the English language adapted to computer use.

Read explains that BASIC was designed with the intention of "teaching people who did not or could not program."



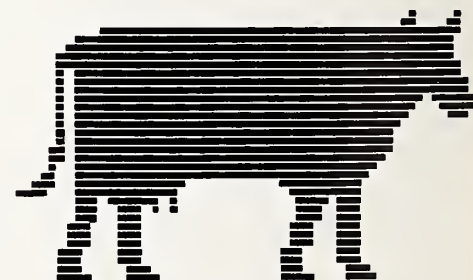
All the 4-H'ers already had some experience with computers before they became involved with the 4-H project—either in school or at home. However, the simplified language made the program much easier to use.

Switching Computers

Anne Redner, a senior at Lewis Palmer High School in Monument, Colorado, started using computers in geometry and math analysis. She had some problems switching from the computer language they used at school to BASIC.

"I had a lot of trouble with CLS, clear screen, at first," Anne reports. "Mr. Read kept wondering what I was doing. The computers at school do one thing and this one does something else."

The difficulties did not end as soon as the 4-H'ers mastered the program. Because they were on a time-sharing account with another group that used Digital's equipment in the evenings, they had to contend with outside forces.



"Everyone is different," Read says. "Some people catch on with programming very quickly; others don't. Another group using Digital's computers wiped out all the programs on our time-sharing account. The sale

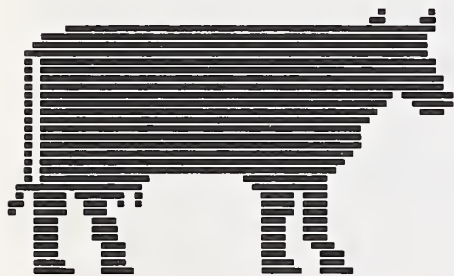
program developed by the 4-H'ers was one of the ones lost. Luckily, the program was put on backup so we got it back."

The 4-H'ers agreed that, while not the most difficult part of the project, the actual livestock sale was hard to manage. Four of the six youngsters sold animals at the auction.

Joe Redner, a future Air Force Academy cadet, describes the sale night as pretty hectic. "I had a steer to sell. Yeah, it was hard, but I think I handled it okay. My fingers didn't even get tired."

Computers Lose Livestock Data

The 4-H livestock sale was held July 30. Rich Lewis brought two PDTs, Programmable Data Terminals, to the fairgrounds in Calhan, Colorado. He also brought a printer and a telephone hookup that could connect the sale to Digital's main computer if anything went wrong.



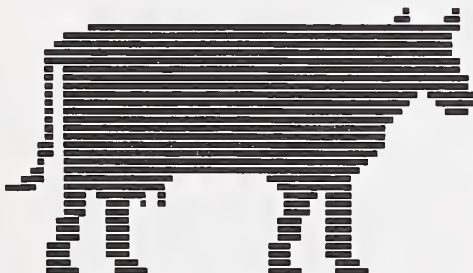
Anne Redner, Lynn Abdella, and John Read's daughter, Amelia, spent the afternoon of the sale typing seller information into the computer.

Midway through the afternoon, a power surge shut down the computer and it lost about 25 entries. As

they were working under a tight timeframe, they could not go through the list of sellers to find the missing names, but had to operate the sale without them.

Ellan Chetkin, the El Paso County Extension 4-H secretary, typed the buyer information into the computer. The original plan was to type in the information as the buyers registered before the sale. However, because of a late start in the morning and a delay due to the power surge, she had countless buyer registration forms to input from immediately before the sale was scheduled to begin.

As a result, the sale began without the computer. The hogs and half the sheep were sold while buyer information was still being entered in the computer.



However, most of the individual sales were cataloged by the computer. The computer generated bills of sale for approximately half of the 28 sheep and all 53 steers sold that night.

The computer-generated bill of sale included the animal's number, the buyer's name and address, and the seller's name and address. Given the weight of the animal and the price per pound, the computer calculated the total selling price.

Learning From Experience

"We got off to a slow start," Bill Keck, Colorado State University Extension agent, El Paso County, says, "and that power surge really put us behind schedule. But once we got the computer on the auctioneer's stand, it worked beautifully. I think everyone was pleased with the final results. We'll just have to get an earlier start next year."

Now that the computer has proven its worth, Keck would like to see the program made transferrable to other systems and available for use by other counties.

Lewis says the program will be easy to implement at subsequent fairs.



The problems they had this year won't be barriers again, he believes.

Read thinks the knowledge the 4-H'ers got out of their project is invaluable. "Joe is our computer whiz. Scott has a PDT at home so he's used to Digital commands. Wendy doesn't have a computer so she wrote out all the programs by hand," Read says. "This group has been very good to work with. I've been dealing with computers for 20 years and getting other people involved is exciting." □

Micros—A Hoosier Approach

Betty Fleming

Program Leader, Information and Communications Staff
Extension Service, USDA

My task was clearcut. Visit Indiana, talk to home economics state and county staff and find out what Extension is accomplishing using the computer as a teaching tool. Indiana has a reputation for being a leader in the field, a state where Kellogg, general assembly and county government funding (over a million) put computers in every county 8 years ago. Surely, everything and everyone was "computerized" by now. Right? Wrong!

With only recent face-to-face experience with a micro myself (and with a long way to go to master the machine) I was rather intimidated when I set out to ask questions of the Indiana computer users. But, I soon found that Indiana Extension computer users remain distinctly human in their approach!

Farm Family Computer Forum

First stop on my trip—attending the "On-Farm Computer Use" conference, an annual event at Purdue. Indiana is the first state to provide such a forum for farm families to gather, interact with experts, and inspect new equipment.

One session advised people on what to do before they purchased a computer. A panel included a farmer who told how computerized his operation was. Later on, someone asked, "How much time do you spend inputting information?" Very little, it turned out. The farmer's wife was the computer input expert!

A day is devoted to family computer topics. Speakers there covered topics on "The Computer Tool" (now and in the future), "Computers In Education," and "Robots In Your Home." It was exciting to learn all the things computers are doing and can do in

the future. It was also somewhat reassuring to learn that robots, as yet, are pretty limited creatures. It took 1,000 different instructions, for example, to program the small Heathkit robot we saw to move around the room. And, even then, he wasn't too successful in his journey.

Industrial robots, costing in the neighborhood of \$10,000 and upwards, can be seen in assembly line operations. The small "household" version at the forum cost \$1,500 as a kit and has appeared on the cover of 30 magazines, in countless articles, and on all major network news shows. And now, there's even one on the Purdue campus!

How a State Leader Sees It

Have all Indiana staff taken computers to their hearts? "Some staff have been here since computers first came, and they still haven't adapted," says Assistant Director Karen Craig. "Some personalities are better suited to computers than others. Perfectionists avoid it. You have to be able to make errors and get frustrated." Is Craig concerned about those who aren't using computers? "We encourage everyone to learn, but it's a good thing, in some ways, that more state staff aren't active in this area. We'd have too many demands on our one programmer. And, there's a backlog of programs now."

Craig is a computer owner at home (Kay Pro) as well as at the office (DEC). She roughs up things for the office on her home word processor and printer. She also uses spread sheet software to keep track of some rental property finances. She figures she spends 1½ hours three times a week on these home chores. She does word processing and report tabulation on the office machine, maybe spending about five hours a week. "It's made my secretary more productive. For example, I drafted

three field staff surveys, she edited them, and the job was done in half a day. Ordinarily, it would have taken 1½ days."

What about software? Craig says, "Land-grant universities probably shouldn't be developing much, except in a few selected areas. We ought to perfect our skills in evaluating programs so we can help in the selection process."

Asked why Purdue, in 1983, had only eight pieces of home economics software, Craig said, "It takes time to develop it. You *don't* want to know how much!" Pressed further, she said, "We have a nutrition program that's taken 2 years."

Craig says many Extension professionals don't know how to talk to programmers. "It's very concrete thinking, like work simplification. Making a bed may have 400 steps!"

Craig says home economics may have fewer programs than agriculture but, "our programs are heavily used."

A State Specialists' View

Dixie Jackson, Purdue consumer economics specialist, is another professional who works on a computer at the office (DEC or IBM) and at home (IBM). She can bring a disk of material from home for editing and printing at the office.

When she arrived at Purdue in 1981, Jackson volunteered to "idiot test" some word processing software. "I knew I had to get into it," she says.

Jackson's had no formal computer training. She's just seized every opportunity, along the way, to learn. "I learned a lot when I purchased my computer for home. People started

asking me for tips." She also put herself on the line in 1982 when she planned consumer management training for field staff and, instead of calling in "experts," decided to offer computer training for beginners, based on her experience.

Jackson has worked with staff members like ag economist George Patrick to transfer IRA software from mainframe to (DEC) minicomputers. She also has ideas for software she'd like to develop, but the time involved makes her cautious. "It took us a year to do the IRA program!"

Write on Processor

Publication writing is easier for Jackson with computers. "I do the original word processing. My secretary gets input from reviewers, edits the copy and makes changes. Then we send the copy to Ag Communications by electronic mail. Getting a publication manuscript produced may only take a few weeks this way."

Housing specialist Sue Merkley is another Purdue professional with a computer at the office (DEC) and home (Timex-Sinclair). "I purposely bought an inexpensive computer at home to learn on," she says.

Merkley's strategy is like Jackson's, to seize every opportunity to learn more. "I have more interdepartmental contacts that I've been working with, too," she says. "They had designed a home insulation analysis program. I wanted agents to better use it. So, we got together on field staff training."

Merkley has appeared on a computer-related video teleconference, an interdepartmental effort, using the Indiana Higher Education Telecommunications System (IHETS). "At least 65 percent of our 92 counties were represented."



Sue Merkley, Extension housing specialist at Purdue University, talks to a new voice-activated microcomputer. Merkley is developing various software packages to support Extension field staff.

Merkley is also working with interdepartmental contacts to develop a software package. One on water heating is due to be tested shortly. "I want to do one on buying a home next," she says. Her work in agent training makes her aware of the danger of oversimplification. "Field staff need to know the rationale, why a program was developed the way it is. If we're not careful, consumers will accept an answer from the system, and, because it comes from the system, they'll think it's *THE* answer. It isn't always, and field staff can help them realize that—it's a decision-making tool, not an answer tool."

Another area for agent training is learning to make multiple use of existing programs, says Merkley. Computer training for Indiana home economics field staff is done primarily by home economics state specialists at the same time subject matter is taught.

What Field Staff Think

Not all field staff think that state specialists should produce more software. Polly Hughes, Washington County home economist, says, "It's more important to use well what we have. Already, we have enough so it's hard to keep track of what's up to date and what isn't."

Hughes says it's good PR in a small county to have a computer, "We've found newspapers really promote our programs, sometimes before we're ready to deliver." She also says that county government officials have discovered the benefits of computers. "They come in the afternoon and stay until 9 or 10 p.m. working on taxes and other matters. Now they're getting their own."

Allow Budget Comparison

Purdue's budgeting program has been of great value to Hughes. "Without having to ask too many personal questions, we can compare family budgets with average budgets and give people an idea of how they're doing with expenditures," she says.

Does Hughes carry the computer to meetings? Hardly. It's not that portable, although there is a portable unit available from the state office. "Sometimes I can predict the make-up of a group. I simply take some printouts and we discuss those," she says. "Sometimes, people make arrangements to stop by the office."

Carolyn Gordon, Jackson County home economist, belongs to the FACTS County Terminal Committee, a group of about 20 county, state, information, and administration people. "We look at problems and make recommendations," she says. "I have a 10-county computer teaching responsibility. We all report on what other agents think and feel."

A computer owner at home (Texas Instruments) Gordon says her two children use it more than she does. No time.

"I taught myself to use computers," says Gordon. "There was no initial training when all the original office computers were installed. As long as you're not afraid of it, you can learn."

Major Use: Office Management

"I use the office computer (DEC) to communicate with other counties and the state office, for word processing, mailing lists, demographic information that helps me plan programs for people, enrollment in home economics programs, etc. The major use in our county is for office management, not teaching as yet."

"My main teaching with computers is to help people get comfortable with them," says Gordon. "People are concerned that computers will take away or change their jobs. They're afraid children won't learn basic skills. The security thing frightens them."

Gordon meets with small and large groups to introduce them to the computer, often taking a portable terminal with her. She also uses the Purdue publication, *A Microcomputer In the Farm Family*.

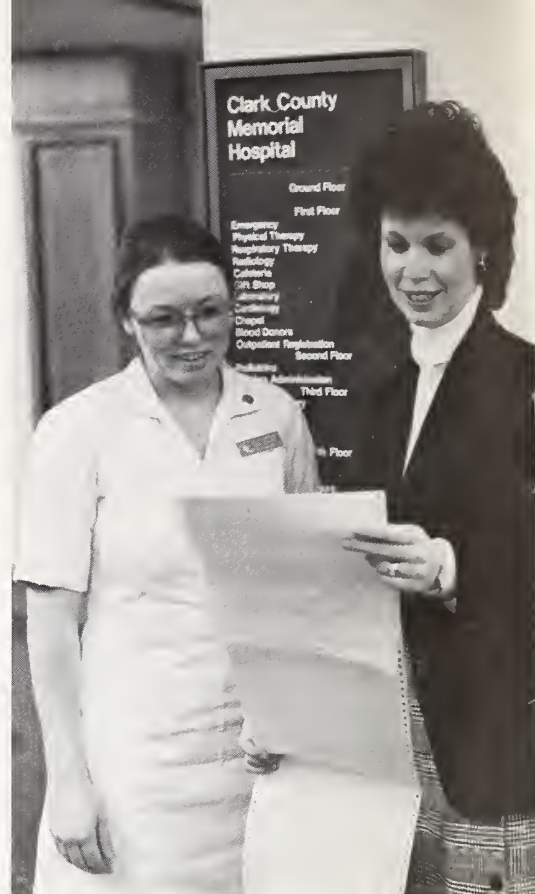
"I wish we had one like it directed to urban and suburban families," she says. She's met with groups of 400 people. "I used the food costs software at our area day and gave out 120 printouts to help people compare their spending to others."

"I'm not sure how long Cooperative Extension will be in this teaching role," says Gordon. "For now, we can help people understand the concepts of programming (not the nitty-gritties), be aware of whether or not a component is a good buy, and generally gain a basic understanding."

"In some environments, there are a lot of people providing help in this area. And, as yet, not really all that many families have made a major investment. We have to work with all families."

Pam Robbins, Clark County home economist, was on maternity leave when a computer arrived in her office. "I have real empathy for those who need to learn about computers. I had to run to catch up."

Now she's leading in many ways. She's a member (and former chairman) of the county/state computer committee which includes Carolyn Gordon. She hasn't bought a home computer yet but she's "investigating."



Indiana Extension has been pioneering the use of high tech. Here, Extension Home Economist Pam Robbins (right) delivers a "Nutri 1" computer printout to Debbie Majors, a Clark County Memorial Hospital dietician. The printouts inform the patients of the nutritional content of various foods.

Budget Software for Victims

Robbins also helps people learn what they need to know to understand computers and make computer purchases. She's worked with a vocational rehabilitation center, using budget software to help accident, injury, and disease victims better understand how they allocate resources.

"We need more advanced software," she says. "Some families don't want to compare their budgets to low-, medium- or high-income budgets. They're ready to input data and get their own budget. They want personalized data." Robbins said she used to think people wouldn't provide such personal data. No longer.

Robbins is chairman of a training committee looking at ways to bring other agents along in the new technology process. "I think it's got to be

a personal thing. You know, you invite a home economist or other agent to sit down at the computer and run programs. Maybe you both go to a computer store and check out what's on the market."

"Improved office management thanks to computers benefits our clientele. I don't think computers are going to do all our teaching for us. We may just adapt or modify our teaching style because of them."

Clientele Story

Robbins, as a regular service, delivers "Nutri 1" printouts to Debbie Majors, Clark Memorial Hospital dietician. These printouts spell out the sodium, cholesterol, potassium, and iron content of various foods. They're stamped with Robbins' address and used in counseling with patients. Major says, "Our patients seem pleased to get this information. If they've had a medical problem, they're really motivated and want information, and they love handouts. The printout is a new twist."

Carolyn Gordon's been working with Orville Lubker, high school counselor in Brownstown. He's found that the FACTS careers software is a valuable teaching tool for sophomores. "Last year, Extension provided input forms for all our students. Indiana Vocational Technical College students ran off the programs for us."

"Students could find out whether they prefer working with data, people, or things," says Lubker. The computer also identifies certain areas, based on their interests, where they might logically pursue employment. "A student who indicated he's not going to finish high school might have few options. A student who's going on for more education might see she has pages of options!" This

year, Gordon will borrow a portable computer unit and the students will run their own programs.

Accountability

How are the Purdue home economics educators being asked to be accountable in the computer delivery of information to people? "Overall, we have to be accountable and show we're doing our job," says Craig, "but there's no special push for us to be accountable about our work with computers. Everyone just keeps saying, we've got to catch up with the latest in new technology. It's a constant cry!"

Carolyn Gordon says home economics doesn't have the software it needs to assess change in behavior. Gordon also says, however, that last year, she reached 2000 people in 6 counties with computer information. "Some of it was leader training." She also does mass media and exhibits and works with schools.

Down the Road

What about the future? Karen Craig says, "The computer's going to change the work life of families. It already has in many farm families where women are heavily involved."

"Computer hackers are already causing problems in marriages," says Craig. "It's been documented. We can see our next generation, the college students, spending all night in computer labs. As new families are formed, there are bound to be communication problems if one, or even both people are into their own isolated worlds."

On the positive side, Craig says, "Extension needs to help families see the impact of all this, the potential, and the alternatives for lifestyles including computers. We need research."

Eldon Fredericks, head of Ag Communications, and another computer user on the job (DEC) as well as at

home (Apple), says he feels Purdue has a leadership function to perform. "People are coming here to study us, go to school on us, so to speak, picking out our successes and failures."

"We may be change agents, but sometimes change comes hard, even for us," says Fredericks. Purdue is in the process of determining how it will upgrade its hardware, making improvements in its FACTS Communications system. "One of our challenges is to continue to provide information to the increasingly wide range of computer literate people. We've got farm families here who are practically experts now. Some families are just getting interested. We're pleased that we can draw 600 people to our On-Farm Computer Conference, but it's increasingly difficult to meet all of their needs."

Fredericks also wants Purdue to do some work with generic software. "I think we should target a couple of machines and write software for them, with the help of a nonproprietary operating system like CPM, for example." He says he hates to write to people and tell them they can't use Purdue software. "Clientele will be able to dial county offices and connect with their computers," says Fredericks. "It's coming."

An Eye To Change

The trip to Indiana showed me (and I hope—you) that this is a forward thinking state with a lot of computer experience and success under their belt. But it's also a state that's taking nothing for granted, looking at themselves with an eye to change, and concentrating on doing even better in the future. I went looking for illustrations of ways that computers are being used as teaching tools. I found them. But—I also found the tools in the hands of extremely capable educators. The combination appears to be unbeatable! □

Learning Via Teleconference

Richard Buhr
Community Information and Education Service Coordinator, CES
University of Illinois at Urbana-Champaign
and
Harvey J. Schweitzer
Assistant Director, CES
Community Resource Development and Public Policy
University of Illinois at Urbana-Champaign



Shortly after the 1982 November elections, newly elected county board members from 28 counties stretching across 250 miles of central Illinois attended the same orientation program. But none had to drive more than 25 miles.

This orientation was the first in a series of educational teleconferences designed to enable local officials to exchange ideas on issues and problems while saving travel time and expenses. This series was conducted over the University of Illinois Cooperative Extension Service's TeleNet System.

The November orientation tied approximately 150 county board members to four county government experts speaking from the U. of I.'s Urbana-Champaign campus, Peoria, and Washington, D.C. Microphones and loudspeakers at each county Extension office allowed program participants to ask questions and to listen to other board members' comments from other locations. Topics discussed at this first teleconference included the duties and responsibilities of county board members, inter-governmental relationships, and national trends affecting state and local government.

"As a new board member, I really appreciated it," says Jerry Welch, Coles County Board. "Everyone I talked to was impressed with the program. It was definitely worth taking time for."

Evaluation

Participant evaluations rated the program highly and confirmed that teleconferencing is an acceptable medium for board members. Ninety-nine percent of them indicated that they would be willing to attend future teleconference programs on topics of mutual interest. In comparison, only two-thirds of the group said they would be willing to drive to larger cities such as Springfield or Chicago for similar programs.

Based upon the positive evaluations of the first program and suggestions from board members on specific topics they would like to discuss, two other programs were held in April 1983—21 counties participated in discussions on locating and stretching county dollars and the county board's role in law enforcement. Participant evaluations also rated these programs highly.

This educational teleconference series is being developed by the Community Information and Education Service (CIES), a cooperative project of the U. of I.'s Office of Continuing Education and Public Service and Cooperative Extension Service with five central Illinois community colleges. The colleges are Carl Sandburg College, Lake Land College, Lincoln Land Community College, Richland Community College and Spoon River College.

CIES began in 1980 with support from the W.K. Kellogg Foundation of Battle Creek, Michigan. The purpose of CIES is to provide local officials with opportunities to examine complex community issues and to assist them in locating and using available technical, educational, and governmental resources.

"In planning CIES programs, we work closely with local officials to determine the topics and program formats that are most useful to them," says Jeri Marxman, Coopera-

tive Extension area adviser for community education. "These officials tell us that they want programs that are offered close to home—they just don't have the time to travel long distances, and money isn't available for travel and expensive registration fees."

Teleconferences meet the challenge of these limitations. Economical programs can be developed to reach a large, yet local audience.

TeleNet System

The U. of I.'s TeleNet system, developed in 1970 by the Cooperative Extension Service, is used statewide for staff development and program delivery to a variety of audiences through county and regional Extension offices.

"We decided that TeleNet was 'natural' resource for local government official programs in the CIES project as well," says Marxman.

Champaign County Board Chairman Gary Adams agrees. Adams, who was a speaker at the teleconference on the county board's role in law enforcement, says: "Teleconferencing is a good opportunity for board members to hear several different people talking about a topic and to have a lot of interaction without actually having to travel some place and sit down in one room. It's certainly a lot more convenient for people."

Adams adds that, in general, Illinois county board members have very few opportunities to participate in educational programs on county government. One Illinois county lobbying organization has recently begun to sponsor some panel discussions at its annual meeting, but Adams explains that "the problem is the travel and cost involved—the room, the meals, and everything else."

Melba Ripper, Fulton County Board chair, who participated in all three teleconference programs, says that teleconferences are "very beneficial in reaching people that we otherwise have no contact with—on the federal level, the state level, and others at the local level. I like the way it's accessible to people locally," she says.

Limitations

Although the participants in the county board programs have been nearly unanimous in their enthusiasm for the convenience of teleconferencing, a few have also pointed out some of its limitations.

Sandra Hindelang, executive director of the Illinois County Problems Study Commission, was a teleconference speaker for the law enforcement program. She thinks teleconferencing is a "great medium," but some audience spontaneity is lost. She felt that without eye contact it was difficult at times to determine whether she had hit the mark in responding to people's questions.

Fulton County Board Chair Ripper emphasized the need for audience participation in teleconferences. "Unless you participate you can become very bored sitting there for a couple of hours. It becomes easy to lose the train of discussion and then you lose the valuable part of it," she explains.

Planning

CIES staff members have carefully listened to participant evaluations of past programs and have been studying other organizations' uses of teleconferencing. Extension communication and subject matter specialists who have used the system for years emphasize that careful planning is essential to successful teleconferences. Drawing upon various sources, Pat Rink, CIES professional development coordinator, has outlined several considerations in planning a teleconference program:

- Coordinators at each teleconference site must be knowledgeable about teleconferencing in general and about the equipment used. Technical difficulties are not unusual, and someone must be available to correct the problems.

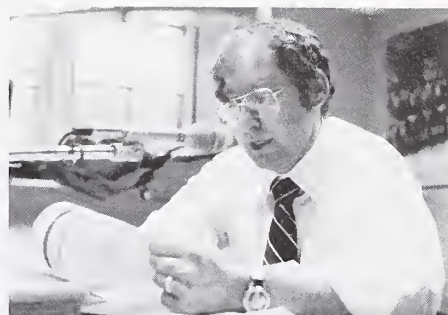
- Participants must have some visuals to guide them through the program. Visuals may be photographic slides, flip charts, or merely printed handouts of the speakers' outlines. Photographs of the speakers are helpful in gaining audience rapport.

- Activities should be changed every 15-20 minutes to hold participants' interest. Presentations can be alternated with question-and-answer sessions, slide shows, role playing, and so forth.

- Audience participation is essential. Questions and comments should be encouraged. Participants should announce their names and locations before they speak, and conference coordinators should keep track of every person who speaks so that their names can be used by those responding. Active participation helps to alleviate the impersonal feeling that teleconferencing can sometimes create.

- Time must be carefully planned. Two hours is about the limit for maintaining interest in a teleconference program. Adequate time for breaks should also be planned—at least 10 minutes each hour.

Rink says that the Illinois Extension's TeleNet is nearly ideal for teleconference programming. Experienced Extension communications specialists and county advisers are on hand to assist participants in using the system and to correct technical problems.



Marxman adds that "we even use the system for program planning sessions. It conveniently allows U. of I. campus staff, county Extension advisers, community college staff, local officials, and program speakers to get together with a minimum of travel to develop efficient and coordinated programs."

Program Participants

With respect to speakers for local government official programs, CIES staff members have selected a mix of university faculty, state and federal agency personnel, and experienced local government officials for each program.

Although participants have evaluated the mix of speakers favorably, it is interesting to note that participants have found experienced local government officials to be the most helpful resources. As Macon County Board Member Mary Lee Brown explains: "I think the exchange of information among regular county board members is the most useful. The ones that really know the nitty-gritty. I'd rather talk to those. They know more about county government because they've gone through it all."

The first series of teleconference programs has been limited to central Illinois counties within the five CIES community college districts. Plans, however, are currently being developed to extend teleconference programming to local officials in a greater number of Illinois counties. □

The Image Builder

Bill Russell
Extension Communications Specialist
University of Arkansas, Little Rock



Somewhere along my 14-year journey in the communications field, someone remarked: "It doesn't make any difference how many people you reach if you don't reach the right people!"

This struck me as a profoundly accurate judgment which all too often is overlooked in our zeal to produce larger numbers, especially when it comes to video communication. The production of 20-, 30-, and 60-second public service announcements (PSA's) promoting specific Extension work not only helps create a better awareness of Extension, but also stimulates a sense of organizational pride among our Extension personnel.

A Positive Relationship

The first step in this process is the obvious one of building a positive relationship with the Public Affairs office of each of the commercial television stations. Public Affairs directors usually move on to other positions after a couple of years in this capacity.

For this reason, most new directors have virtually no concept of what the Extension Service is about or how it can serve as a resource for consumer-oriented information.

Once directors are exposed they normally become interested, and they become even more excited when they realize you can produce and edit PSA's for their TV station and tailor spots for seasonal consumer needs.

In Arkansas, it is a practice to survey stations for needs each quarters of the calendar year. Some stations want 20-second or 60-second PSA's and occasionally a station will request some 10-second spots. The length of the spots tends to change as the year progresses but, for the most part, requests average 20 and 30 seconds.

Checking With Program Areas

Once the station needs are established, the marketing phase begins by checking with each of four major program areas (Agriculture, Home Economics, 4-H, and Community Development) for activities, projects, meetings, and seasonal recommendations for consumers and farmers which can be made into visual spot announcements.

These possible spots are ordered in accordance with major goals in the program areas. Next, the spots are targeted geographically—for instance, northwest Arkansas is labeled big beef cattle country while east and northeast Arkansas is tabbed for row crop production. This creates a positive relationship with the Public Affairs director. A source of tailored spots has been established for a particular geographic area.

Methodology

Plan to have a 3/4-inch tape video cassette recording of the spot in the hands of the Public Affairs director at least 3 weeks ahead of the target broadcast period. In Arkansas, there is no in-house video-editing capability. Recordings are made with a Sony DXC 5000X camera and a Sony VO-4800 recorder. We deliver unedited spots 3 weeks ahead of time. Most states will have editing capability and will not need to be quite so sensitive to lead time.

In Arkansas, each spot is tagged with a message to "contact the county Extension office" and the "state office address." This dual tag is chosen because many rural citizens are unaware of the location of the county Extension office or prefer to write for information or a pamphlet. Tagging the spot also serves as feedback to determine the success or failure of each spot.



After 4 years gathering valuable tips of public service announcements, it has been hard to determine specific numbers as every county does not report PSA contacts. However, the following generalities have been observed:

- *Farmers rarely request the information offered.* Farmers may already know the information. However, they do view the spots as promoting consumer awareness of agriculture and are generally very supportive.
- *Horticulture PSA's generate high response.* Two out of every three Arkansas families are engaged in backyard gardening, so a heavy gardening interest is to be expected. However, lawn care, shrub, and tree pruning also do extremely well.
- *Home-Economics-related PSA's generate the most consistent response.* People are interested in food and furniture and they remain popular topics whether it's a microwave cooking workshop or a furniture reupholstery session.

Also, excellent results occur with spots that promote Extension homemaker clubs and money matters.

- *Meeting and Field Day PSA's increase attendance.* These need more visual emphasis but the public does react when the spots are "open to the public."
- *Energy conservation and 4-H PSA's do not generally stimulate strong response.* This may only be true in Arkansas; however, it appears that for whatever the reason, the public doesn't react strongly to either of these general messages.

Renewed Pride

Generic Extension PSA's have been effective in helping people to identify Extension. Agents and specialists verify this every day as they travel the state working with people. Also, Extension workers experience a renewed sense of pride when their organization receives video exposure. Call it a status symbol if you will, but the fact remains that for many people television exposure tends to automatically stimulate credibility.

In summary, Arkansas has learned that the television PSA's that are planned and structured as marketable Extension tools not only inform the public about Extension services but also stimulate employees' morale and foster pride and professional purpose. Extension also provides the media with its multiplicity of available resources and informs the public of Extension's diverse and information services. □

Interactive Education— A Media Mix

Arland R. Meade
Professor, Agricultural Publications
The University of Connecticut, Storrs

When Elsie Fetterman initiated a request for a Title XX grant to train service providers in Connecticut government and private agencies, she didn't wait for far-out or innovative technology—she looked for ways to use existing technology, materials, relationships. Then, Fetterman blended these into an interactive teaching program that was far-reaching across the state.

Nothing was needed in technology more advanced than the telephone, a public television system, the printing press. But she integrated these into an interactive learning operation unprecedented in Connecticut.

The plan required 13 hours on the air on public television, 32 meeting facilities, telephone arrangements, about 80 guest experts, about 300 professional service providers assigned by their agencies, and cooperation of the Cooperative Extension Service, The University of Connecticut Extended and Continuing Education, and the state Department of Social Services. Later some "bonus" activities required a vote of the University Senate and of the School of Family Studies.

Many services, including guest experts' time, were free. The grant totaled \$124,047 including \$38,636 in state matching funds.

The authors presented the operation, with videotapes and commentary, twice at the New York Cooperative Extension Conference on January 12, 1984, at Grossinger's in New York. The conference theme was "Educating in the Electronic Age."

The gist, as stated in the program, was: "An electronic interactive procedure to teach Connecticut care providers—mostly professionals in state and private agencies—so they can better advise their clientele.

Teaching was conducted through statewide interactive television and telephone. An innovative aspect was to determine how well this procedure could educate leaders and professionals while eliminating most travel by participants and presenters and without the typical repeated lecture presentations otherwise needed to cover the state."

Programs Plan

The principal learners were employees of state and private care agencies—plus anyone who wanted to listen to the 13 TV hours broadcast on public TV, and read printed matter.

Their objectives? To paraphrase slightly the project's brief description: The project will train Title XX agency personnel of Connecticut in the skills necessary to understand and better cope with money problems and consumer rights and responsibilities.

The contract was between the Connecticut Department of Social Services and the Title XX Agency for the state. The proposal was signed by E.J. Kersting, director of the Connecticut Cooperative Extension Service. Elsie Fetterman, consumer education specialist, became the principal investigator by contract.

Thirty-two agencies assigned 300 employees to the program. They were required to attend 13 sessions at 32 viewing centers, some being Extension field offices. Other participants came to the centers or viewed the programs on their own TV sets. One thousand notebooks contained supporting literature for the programs. Title XX guidelines required that at least half of the participants (social service providers) be from Title XX agencies—of which there were 600 in Connecticut.

Assisting Fetterman on camera were 80 professionals from federal, state, and local consumer agencies. The series had 13 topics, one for each

week during the fall of 1978. The experts not only were on the air for 1-hour segments, but each donated another 6 hours to tutor the staff who would conduct the groups at the 32 listening centers. The experts met with Fetterman and the facilitators for a full-day training session during the summer for each of the 13-week interactive series. All sessions were held at a county Extension office.

Teachers manuals (for group leaders) explained procedures for conducting classes in some detail, as these were not professional teachers.

They did this so the group leaders (facilitators) would have specialized knowledge to impart to participants for 2 hours each week before the TV presentations. Those at home who tuned in received 13 hours of instruction; those in the viewing centers received those 13 plus 26 more hours of face-to-face instruction.

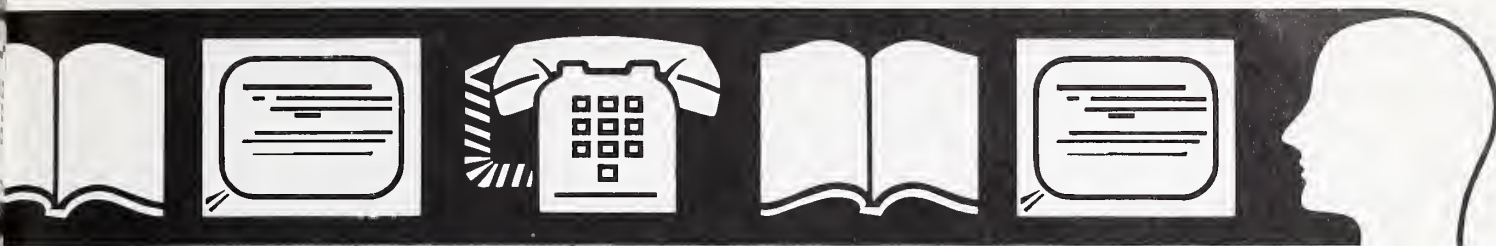
Communications Component

A communications hub was the Connecticut Public Television with its key station in Hartford and four satellite stations. The grant provided for \$1,000 per program for studio, crew, and broadcasting.

The old but ever useful telephone was the other electronic component. The grant paid for toll calls from anywhere in Connecticut to the station during the broadcast and even some after the panel went off the air.

At the studio Fetterman and the panel of experts were on the air for each program from 12 noon to 1 p.m. Numbers on the panel varied from two to four. After the introductions, some educational presentations were made. These could be a film, videotape, or special comments by the panel. Some presentations were





dramatic skits done for earlier Extension consumer education teaching. These dramatizations depicted such problems as mail fraud, tenant-landlord relationships, warranties, door-to-door selling, and home repair. Fetterman recruited help from the university theater department to write and act these skits.

After the formal instruction, Fetterman invited viewers to phone in questions—and questions poured in. The experts provided unhurried and thorough answers.

Question Call-In

Phone-in procedures were important. So that the station did not air inappropriate words, the project coordinator, hired full time, received the calls. Often she could help the caller simplify, rephrase, or boil down the question. Then the coordinator would signal the studio and the caller's voice would then be heard in the studio and by everyone tuned in.

To avoid dead time on the air, Fetterman and the panel kept up the discussion, if there was a pause between calls. All 32 discussion leaders were contacted by phone each week for any problems they might have had at viewing centers.

Additional Bonuses

A bonus feature piggybacked on the Title XX grant was the opportunity to get 3 hours credit at the University of Connecticut. Fetterman received permission from the University Senate's curriculum committee and the School of Home Economics and Family Studies (now named School of Family Studies) to offer this as an experimental course for 3 hours of credit in consumer education. Some enrolled through continuing education procedures at their own cost.

To receive credit, "students" (care provider professionals) had to attend all the group sessions, prepare a re-

port, take midterm and final examinations, and conduct a field project.

In addition the Title XX grant paid \$10 per registrant from their agencies for Continuing Education unit credits. This was mandated by Title XX. Title XX funds provided professional evaluation of the results. They found that many participants declined to take pre- and post-tests, although assured they were anonymous. However, pre/post tests were given at each session and a major one for entire series. They also found that instruction in use of Digitek sheets for marking responses to the multiple choice and true-false questions and taking the tests, was a major time consumer.

However, analyses proved that learning was statistically significant.

A satisfaction questionnaire of three parts was administered (including some Likert-type items). Thirty-five percent of participants rated the workshops overall as excellent; 54 percent rated them as good.

A small minority felt that use of TV in this educational series was not advantageous. However, 81 percent felt use of TV was good or better than good.

In an open end portion of the questionnaire, 32 wrote comments and these varied widely, and were sometimes contradictory.

Spinoffs

Spinoffs? Videotapes of the 13 hours of TV have been used in university classes with up to 110 students as well as at community colleges, Eastern Connecticut State University, and one private college. Participants have written letters of appreciation for the opportunity.

At St. Josephs College, 26 student teachers viewed tapes and then obtained information from sources

referred to, or from any relevant booklets or other available material provided by various agencies. These student teachers used tapes and support material to develop teaching units for their home economics classes.

The project met Title XX needs in: (1) upgrading skills of interested personnel from Title XX agencies to meet client needs in financial decision-making and in exercising consumer rights and responsibilities; and (2) providing staff of Title XX personnel with specific skills to help clients in financial decisionmaking and exercising consumer rights and responsibilities.

The 13 topics were: What is Credit?, Your Credit File, Financial Problems, Door-to-Door Selling, Mail Order Fraud, Warranties, Tenant-Landlord Relations, Food Stamps, Food Issues, Patient's Medical Rights, Auto Repair, Funerals, Agencies.

An indication of agency approval of the concept is in a letter from Connecticut's largest city, Bridgeport, saying: "The City Welfare Department would send 20-25 persons, with a caseload of 125 each, to reach a potential of 3,000 clients in this city alone."

Successful Mix

The mix of media—electronic, face-to-face, and printed reference material—was successful. The electronic components of television and telephone were the center, but other media supported. And for the whole, a great deal of organization from the Cooperative Extension Service was indispensable. One must use the new in communications and education, but this does not negate some of the older methods. □

Weather Data In— Rice Growth Out

C. Richard Maples

Extension Specialist, Agricultural Communications
University of Arkansas, Little Rock

Arkansas rice growers lead the Nation in rice production. One of the many tools they use to maintain that lead is DD50—a University of Arkansas Cooperative Extension Service computer program to help growers schedule crop production practices at proper times. Enrollment in the DD50 Program has grown from 540 rice producers in 1978 to 2,310, or over half the state's rice growers, in 1983.

Terminology

The DD50 computer program uses weather data to predict when plants in a rice field will reach specific growth states. A DD50 value is calculated by averaging the maximum daily high and low temperatures in degrees Fahrenheit and subtracting 50. The computer program has built-in limiters—a 94-degree daytime maximum high and a 70-degree maximum night-time low. These increase the accuracy of predicted DD50 values during years with extreme weather.

The rice-producing areas of southern and eastern Arkansas have been divided into four weather zones. A University of Arkansas experiment station in each zone serves as a weather data collection point where DD50 values are recorded every day starting early in the spring, usually on April 1.

Thresholds

Research had determined the number of DD50 units required by each variety of rice from the date of emergence to a specific growth stage, such as internode growth of one-half inch. Using the internode length and heading dates as "markers," researchers determined thresholds for other development stages for each variety.

The number of DD50 units needed to reach each of the critical growth stages of the rice plant are called thresholds. These thresholds are a

permanent part of the computer program, along with a long-term weather database.

Accurate Predictions

Daily accumulations of DD50 units override the long-term average, thus increasing the accuracy of the date or stage being predicted. About May 1, growers receive a printout of predicted dates for each field. Staff members monitor research plots and study daily DD50 accumulations so they can make adjustments during the growing season.

If the accuracy of predictions can be improved by 2 or more days, the grower will receive an update. This provides a built-in safeguard against inaccuracy for an entire season. Usually, events being predicted are in the acceptable range of plus or minus 2 days.

Strengths and Weaknesses

The rice grower's initial DD50 printout provides predicted dates for 18 management practices; such as, advising when to apply nitrogen, herbicides, and fungicides, and when to drain a field for straighthead control. A weakness is that the program only considers the effects of weather, not the effects of delayed flooding or other cultural practices, on plant growth.

Grower Acceptance

Bobby A. Huey, an Extension agronomist who helped develop the DD50 computer program, says rice growers who have used the printout tell him they would be "lost without it."

All the grower has to do to enroll a field in the DD50 program is provide the county Extension agent with two bits of information—the variety name and the date of emergence. (Emergence is defined as the time when 10 germinating seedlings

per square foot are barely visible above the soil surface and are less than 1 inch high.)

Estimation Problem

So why aren't all rice growers enrolled in the DD50 Program? Huey believes some growers find it difficult to establish a meaningful emergence date when emergence occurs over a long period of time. Extension specialists and county agents encourage rice growers not to be reluctant to estimate a date, because they believe no one should miss out on the benefits of the DD50 Program. □



Food Marketing Info? Dial DIALCOM!

Mary E. Mennes
Extension Food Management Specialist
Department of Food Science
University of Wisconsin, Madison
and
Leigh F. Gregg
Extension Information Specialist
Department of Agricultural Journalism
University of Wisconsin, Madison

Extension home economists (EHE's) who were left without national food marketing information after budget cuts can now use a Wisconsin food management specialist's electronic newsletter to fill the void.

Mary Mennes, Wisconsin food management specialist, has made available her monthly computerized newsletter *Food Market News* to Extension in Washington to broadcast nationally on its DIALCOM computer network.

Mennes's newsletter, distributed to Wisconsin counties since 1981 by Wisplan, a statewide CES computer network, began its national distribution via DIALCOM in August 1983.

The DIALCOM version omits highly regional information and provides a "truly national food marketing information picture," Mennes says.

Despite an increased need for marketing information as food prices rose in the late 1970's, EHE's were left without a national source of food supply trend projections. After budget cuts, USDA-AMS discontinued its *Food Marketing Alert*, which was a monthly summary of supply projections.

Requested Marketing Info

In midsummer 1982, Rebecca Banis, an Extension home economist and unit chairman in Norfolk, Virginia called Extension-USDA. Her question: "Why can't I get food buying information over DIALCOM to help me with my weekly newspaper columns?"

New models staff (CES staff with state appointments who devote a portion of their time to federal leadership responsibilities) Georgia Lauritzen (Utah) and Dymple Cooksey (Texas) discussed the matter with Extension—USDA Home Economics and Human Nutrition and Information staffs; then they did a survey of states to see how they felt about the need for such information.

Fifty-one of the 59 specialists responding said they had used the *Food Marketing Alert* information in newsletters, radio programs, program delivery and television and in work with EFNEP's low-income families.

The survey group concluded that specialists' greatest information needs were about best buys, plentiful foods, food price trends, and national supply trends. After an examination of several state marketing information newsletters, Mennes's Wisconsin *Food Market News* was chosen for national distribution.

Converted to DIALCOM

Mennes gathers food marketing supply and price trends information by consulting other specialists and reviewing USDA and industry reports and projections. She develops the newsletter on the computer terminal in her office at the University of Wisconsin-Madison and broadcasts it to the counties through Wisplan's electronic mail. Then the information is converted for use on the DIALCOM system.

The electronic operation saves time getting the information distributed by the first week of the month, Mennes says.

Employing a format similar to *Food Marketing Alert*, Mennes regularly covers supply and price trends for three commodity groups: red meats and poultry, fresh fruits and vegetables, and processed fruits and vegetables.

"The only commodity that varies regionally or from state to state is fresh produce during the growing or harvest seasons," Mennes says.

Evaluating Effectiveness

It is too early to tell how other states use *Food Market News*, some states are just becoming aware of its availability through DIALCOM.

Mennes suggests several ways that other states can use *Food Market News*.

First, Extension home economists can localize the information. "This can be done easily with phone calls to state agricultural specialists," says Mennes.

Second, EHE's can incorporate food supply and price information into the direct teaching of clientele. Topics that lend themselves to this include: family food management strategies, getting more from the food dollar, and changing buying habits to accommodate price changes on certain foods.

Allows Screening of Materials

EHE's can also screen teaching materials to make them relevant to current market situations.

Up-to-date market information is especially important for EFNEP's low-income families, so EFNEP project assistants should use sources such as *Food Market News*, suggests Mennes.

The key is not only getting the food market information to professionals despite the governmental budget cuts, but also getting the information to the consumer fast, when it's most effective. That is where electronic technology plays its part. □

Are Printed Publications Passé?

Patricia Loudon
Public Affairs Specialist
Extension Service, USDA

Will our future clientele learn how to can tomatoes by attending an Extension demonstration meeting where the facts are reinforced by a handout publication? Or will they use their home personal computer to tap into a database at the county Extension office or land-grant university?

Will this latest advance in communications technology—coupled with increased production costs and slow turnaround time—finally make printed publications passé in our educational programs?

The answers to these questions aren't simple. But, developments on several fronts indicate that communicators and specialists alike are exploring the use of databases and software decisionmaking packages as possible replacements for existing publications, or as additional methods for delivering and updating their program information. A few of these projects are outlined below.

Full Text Transmission

Transmission of the full text of published material is not new. Online access to the *Washington Post* and the *Wall Street Journal* has been available for some time to subscribers who would rather receive their daily dose of news events via computer.

David Hoyt, technical information officer at the USDA National Agricultural Library (NAL), believes that full-text databases might offer a viable alternative to the traditional print medium of communication.

"As an organization with responsibility for delivering such large quantities of printed information, NAL has an interest in and responsibility for alternative document acquisition and delivery mechanisms. Full-text databases might offer a viable alternative to the traditional print medium of communications," he says.

NAL Project

With a grant from Orville Bentley, Assistant Secretary for Research and Education, the National Agricultural Library contracted with BRS for a pilot project to develop, manage, maintain, support, and make available a private, online, fully searchable, and remotely accessible dial-up database. Hoyt is project coordinator for NAL and Ovid Bay and Patricia Loudon, Extension Service Information and Communications Staff, are cooperating with the project. First publication online will be the *Pork Industry Handbook*, a cooperative publication of the National Pork Producers Council and the state Cooperative Extension Services and coordinated by Purdue University.

"The *Pork Industry Handbook* is an authoritative publication with 100 fact sheets, each one describing a different aspect of swine production and needing frequent revision and updating," says Hoyt. "The file will be available for searching in the United States through communications capabilities of standard dial-up terminals and microcomputers with communications capability to also interact with the system."

Hoyt says that the new database will include not only the traditional indexing and cataloging, but also detailed bibliographic records for each fact sheet. "But in addition to these forms of entry," he says, "every word in the entire text will also appear in the database and be searchable by keyword."

This system of detailed indexing and immediate document delivery may revolutionize information retrieval and document delivery, according to Hoyt. The NAL system will also be accessible over the ITT DIALCOM electronic mail system. "An Extension agent or researcher in one place might search the *Pork Industry Handbook* to locate a piece of information,

store this information in his or her electronic mailbox, and forward it to another local office across the country," says Hoyt. An evaluation team and report will also be put together for the project.

"Another heavier user of this system could be the pork producer via a personal computer," says Dixon Hubbard, staff leader, Livestock and Veterinary Sciences, Extension Service, USDA. "However," says Hubbard, "this method of information delivery will not replace the present system of updating and reprinting the Handbook... at least not in the near future. But, it offers us another avenue of making valuable, timely information available to producers when and where they need it."

Hubbard is also interested in full-text transmission via a system such as AGNET (a nationwide agriculture network database system that originated in Nebraska) for the popular *Great Plains Beef Cattle Handbook*.

"Producers subscribing to that or a similar system could then access any or all of the handbook for application to their farm production systems. We in Extension need to explore and develop as many alternative methods for delivering this type of information to our clientele," he says.

EXTPUBS—Another Full Text System

On another front—and on a much smaller scale—the first USDA electronic publication—*How Weeds Affect Human Health*, EX-EP-1, will be electronically published this spring by Extension Service. The publication, developed by a team of state Extension Service specialists and ARS scientists, will be available for access by states through a database called EXTPUBS via the ITT DIALCOM electronic mail system.

Unlike the databases described above, there will be no preprinted or published copy available for distribution

from USDA. One copy of the typed manuscript will be cataloged and filed by the National Agricultural Library and indexed for reference in the library's bibliographic database system—AGRICOLA. Another will be retained on file by USDA's Office of Governmental and Public Affairs for information when receiving public inquiries. Publication to states will be only through the computer database.

States can search the EXPUBS file which will list title, author, key words, and a brief abstract of the publication. If they then decide to access the complete manuscript, they can call up the EXTMS file.

"Electronic publishing of selected documents offers us an excellent method of transmitting some types of publications quickly and economically to states," says Ovid Bay, director of information and communications for Extension Service. "This process will give states several options in their publications process. They can easily download the manuscript into a word processor or personal computer, eliminate any data that has no regional application, add localized information from their state specialist, store this information into their own database, print it as a state or regional publication or as a xeroxed fact sheet" he says.

The first publication, *How Weeds Affect Human Health*, is a natural for this type of transmission. It was developed at the recommendation of the Weed Science Ad-Hoc Publications Committee because of the lack of a definitive publication in this important area. The publication is organized as a compilation of complete fact sheets on weeds in four major areas. Not all weeds detailed occur in all parts of the country.

Author M. Coburn Williams, ARS research plant physiologist, and coauthors share with others

a concern that the scientific community will be reluctant to recognize electronically published documents as really published.

"Cost of maintaining a full-text database such as EXTPUBS is minimal," says Jerry Paulsen, Extension information resources management specialist, who has worked closely with the Information and Communications Staff in setting up the system. "Cost to states to pull one manuscript off the system will be approximately \$15 to \$20. However, they will incur additional costs if they decide to print some or all of it," he says.

An additional feature on the system will be the availability of color-slide illustrations for the weed publication through the USDA Photography Division. Instructions at the end of each electronic publication will notify users how to obtain copies and will also include a complete listing by number of these illustrations.

Decision Packages

At the Weed Science Society annual meeting in January 1984, several Extension specialists reported on computer technology application of information previously available only in publication format. Alexander Martin, Nebraska weeds specialist, reported on the decisionmaking computer program he developed to assist producers in making herbicide selections for crops.

The program is a melding of information contained in two Nebraska Neb-Guide fact sheets and is available to producers subscribing to the state-based AGNET computer system.

Martin says, "Our producers can just let their fingers do the walking to find the necessary information."

Farmers not subscribing to AGNET can visit the nearby county Extension office for easy access of the herbicide selection program.

New Class of Publications

Out on the West Coast, they call the newly developed California Computerized Pest Management Information System "a new class and method of publication." Michael Stimmann, University of California, and other Extension weed scientists at Davis see this new system as an eventual replacement for many existing pesticide publications. "We've recently begun charging for these publications," says Stimmann, "and it takes longer and longer to keep them updated and available through conventional printing procedures."

Pest management recommendations will soon be available to anyone who has access to a personal computer and telephone modem, Stimmann adds. He and his colleagues are putting finishing touches on the software needed to get the pesticide recommendations program up and running for state procedures. California recently installed a network of microcomputers in county offices where the program will also be easily available to users.

"It's the wave of the future," Stimmann concludes. "We not only can keep our pesticide recommendations up to date easier, but also make them immediately accessible to the public through the county offices. The number of future printed publications will be reduced, and those remaining will concentrate on fundamental information complete with illustrations, graphs, and charts."

What Are You Doing?

Is your state or county doing anything in the arena of electronic publishing? If so, please contact the author at Extension Service-USDA, Information and Communications Staff, Rm. 3430-S, Washington, D.C. 20250/(202) 447-6133 or by electronic mail to AGS096. We'd like to share your ideas and projects with other USDA agencies and with states. □

High Tech Farming Fair

Jane Schuchardt
Extension Communication Specialist,
Home Economics
Iowa State University, Ames

A high touch method communicated a high tech message to thousands of Iowa State University (ISU) Extension clients last fall:

"See a smart tractor! Get acquainted with Extension's Agricultural Infodata Service! Find out how to use the computer to make cattle marketing decisions! Test the quality of your corn or soybean harvest!"

They came in droves for 3 days in late September 1983, to farmland in east central Iowa from the rest of the United States, and as far away as Zimbabwe, Africa, to see the Farm Progress Show, an annual agricultural extravaganza that rotates among the states of Iowa, Illinois, and Indiana. In Iowa, the sponsor is *Wallaces Farmer* magazine. Some 400 suppliers of machinery, equipment, seeds, pesticides, and almost any other item used on the farm showed off their wares on 1,400 acres of exhibit area and surrounding field demonstration plots. Attendance topped 350,000.

ISU Extension used this opportunity to show the active level of its response to clients' changing needs in an electronic age. Other byproducts included building public awareness and giving a new educational twist to some old ideas. With Cedar Rapids Area Extension Director Russ Swenson at the helm, planning for ISU's involvement in the 1983 Farm Progress Show began almost a year and a half in advance. On the planning team were field staff, state staff, agriculturalists, home economists, administrators, and communicators.

Computerized Models

The results was a high-tech trek through 19 display areas in the 60-foot-square ISU tent and surrounding demonstration area and field plots. Professional Extension workers and 4-H members staffing



each display provided the proven-effective one-on-one contact with Farm Progress Show visitors.

Dallas McGinnis, ISU Extension's well-known radio announcer, broadcast farm news and markets live. Also part of this display was an opportunity to get acquainted with Iowa Extension's Agricultural Infodata Service, a regularly updated source of farm and market news broadcast by Iowa public television.

Participants eyed two pens of beef cattle and tried to decide if marketing them now or later would be the most profitable. Then they watched a computerized marketing model help them make that decision by combining information on grade, cutability, pricing, production costs, and cattle type.

They tried their hand at operating Apple III microcomputers. They learned what software, available through ISU Extension, could help them with buying decisions in the home and on the farm.

Grain Quality Tests

Visitors put corn and soybean samples to the quality test. The Near Infrared Reflectance Analyzer measured the nutritive quality of grain, an important point when selecting

cost-efficient rations for livestock. The Centrifugal Impact Machine measured grain brittleness, necessary information for preventing grain breakage.

They got acquainted with new machinery, especially a smart tractor computerized to report how efficiently it's running. Two new machines, specifically designed for conservation tillage farming, were demonstrated. The punch planter rolls right over residue, punches holes into the ground, and drops in seed. The point injector fertilizer applicator allows multiple application of fertilizer throughout the growing season with minimal root pruning.

Human Health, Garden Growth

Beyond the high-tech emphasis, several displays involved human health. Farm families could take a lifestyle checkup to answer the question, "Are you as healthy as your tractor?" People demonstrated aerobic exercises and trained 4-H'ers took blood pressure readings.

The longest line at any display was for a taste of the old-fashioned chocolate chip cookie made with a new recipe low in sugar, fat, and calories. About 4,800 people had a chance to taste the cookie and nearly 15,000 recipes were distributed.

Other displays included gardening, dressing for safety on the farm, soil testing, rural crime, corn maturity, and energy efficiency of hog pens.

Finally, a select number of Farm Progress Show visitors had an opportunity to find out more about high technology or any other topic of their choice if they won a "specialist for a day." Extension officials said the purpose of this offer was to demonstrate the commitment of Extension to helping Iowa people. □

Take Two!

James Booth
Extension Broadcast Coordinator
Michigan State University
Formerly of Mississippi State University



If you can imagine a self-contained, 2-minute, question-and-answer audio segment lifted out of the popular television program, *Donahue*, you'll have a general idea of the format of *Take Two*. Each segment identifies a question or problem as posed by a member of the audience, then offers an answer or solution from a professional person.

Take Two has several advantages: The first is time. In the past, programs were usually 5 minutes in

length. *Take Two*, as the name suggests, is only 2 minutes. Station programmers say the shorter format is much more likely to keep young listeners interested and tuned in. Also, the shorter version is easier to fit into today's complex program schedules. The second advantage is format. Earlier programs tended to be extended interviews—"talking heads." *Take Two*, much more dynamic, employs a quick tease supported with sound effects and music to introduce the subject. Next comes

a greeting from the narrator who moves to more comments or to the response. Following the response, the narrator gives a quick one- or two-line summary, sound effects fade up, and a second narrator gives a 4-H and Extension sponsorship comment and a plug for the local Extension office.

Location Interviews

A third advantage is production technique. Earlier programs were almost always produced in one sitting in an audio booth as the 4-H specialist and a host followed an outline. *Take Two* goes on location. We interview people in all kinds of places, from the local Extension office to schools, meetings, and workshops—wherever they can be found. Once the questions have been selected through a review process, the professional persons are sought out and interviewed in their work environment.

So, *Take Two* is a response to both the specific information needs of the 4-H age group, and the needs of station programmers in terms of time, format, and production technique. □

Minnesota Technology Videotape

Betty Fleming
Program Leader, Information and
Communications Staff
Extension Service, USDA

"Innovation, Teamwork, and New Technology in Minnesota" is the topic for a new videogram that will be sent out by Extension Service-USDA Administrator Mary Nell Greenwood to all state Extension directors in May-June of 1984. The project is a joint venture between Extension-USDA and Minnesota. The Program Development, Evaluation and Management Systems Staff provided federal funding. Minnesota cost-shared the project.

The 20- to 25-minute internal communications videotape is designed to be a discussion piece for Extension directors and their staffs. It is targeted to all subject matter disciplines

and presents one state's comprehensive approach to the use of all new technology, not just computers.

Focus On New Technology

The tape focuses on work being done with new technologies in two counties, one rural (Big Stone) and one urban (St. Louis). It also shows the area, experiment station and state backup provided.

Working on the project for Extension Service-USDA are Betty Fleming (Communications Staff) and Jerry Paulsen (PDMS staff). On the Minnesota side, Gail McClure and Rich Reeder (Communication Resources) are part of the team effort. □

Hard Times, Soft Disks

Andy Duncan .
Editor
Oregon's Agricultural Progress Magazine

Reprinted from a publication of
The Oregon Experiment Station,
Oregon State University, Corvallis.
Photo courtesy of Dave King.

More over, PAC-MAN. AGMAN's coming to Oregon!

That's the name, short for agricultural management, Experiment Station researchers have given to a state-wide, computer-based information network they are developing and already are testing in Marion, Jackson, and Umatilla counties in cooperation with OSU Extension Service specialists and agents.

It's not a game. In the researchers' view, Oregon is lagging behind some states in using one of the most powerful new farming tools of the century, the computer. AGMAN and other farm management services under development may help the state catch up in computer-assisted farming—perhaps even surge into the lead.

Brian Croft, an Experiment Station entomologist, is a leader in the OSU push to help farmers take full advantage of the computer. The effort crisscrosses traditional campus boundaries, involving researchers and Extension specialists in most departments of OSU's College of Agricultural Sciences, county Extension agents, and personnel from other campus units like the Atmospheric Sciences Department and the Computer Center.

Tying Into AGMAN

It's nothing new to Croft. The entomologist came to OSU in 1982 from Michigan State University, where he was national director of a federally funded project developing computer models for apple crop management. The federal funding came to OSU with Croft and served as seed money for attracting additional public and private funds being used to develop the computer-based farm management systems.

The idea behind AGMAN is "networking"—gathering information

from many sources, such as farmers in Oregon and other states, scientists and Extension personnel at OSU and other universities, the U.S. Department of Agriculture, and the U.S. Weather Service, and making all that data available to whoever wants it.

Eventually, through computer terminals at Extension offices in the state's 36 counties, and through home- and business-based microcomputers, people in Oregon's agriculture industry, and related businesses, will be able to "tie into" AGMAN and take out information ranging from market prices for beef, wheat, and other commodities, to the current life stages of crop pests in various parts of the state.

Croft, who is working on AGMAN with Kevin Currans, a computer specialist in OSU's entomology department, points to Integrated Pest Management, or IPM, as a good example of how AGMAN will help farmers.

Economical Pest Control

"IPM means using tactics to achieve pest control that are cost effective, minimize environmental side effects, and are compatible with society's goals," says Croft, explaining that an important part of the program involves monitoring insect life cycles so you can spray "bad" bugs only when they are apt to do significant crop damage and avoid killing "good" bugs that prey on pests.

Getting AGMAN "fully implemented"—so any farmer with access to a microcomputer can use the system—may take 10 years or more, says the scientist, but the service first will be available through county Extension offices. The initial steps for providing that service have already been taken.

The OSU Extension Service has been operating a pilot computer program in Jackson, Umatilla, and Marion counties for several months. It in-

volves putting microcomputers in county offices so Extension agents can use them for office management and for sending and receiving information via the computer and telephone lines—a method that's called "electronic mail." Plans call for all Extension offices to be linked in a statewide computer system over the next 2 or 3 years.

AGMAN is part of the three-county pilot program, too.

"Through AGMAN, we have access to the latest market information, and we plan to use AGMAN in working with our fruit growers, livestock people, and other clients," says Ron Mobley, chairman of the Jackson County Extension Service in Medford.

Irrigation Information

AGMAN shows great potential for quickly processing weather data for the semiarid region and calculating potential moisture loss for the day. Farmers could then feed that information into their own microcomputers, along with information about their particular crop conditions, and find out when and how much to irrigate.

"Line 21"

AGMAN isn't the only electronics-related innovation headed toward Oregon farmers. The OSU Extension Service plans to begin operating a new farm market information service in cooperation with the Oregon Public Broadcasting System.

The service will allow persons who buy a special decoding device to receive up-to-the-minute farm market news (in the form of writing on the television screen) on OPBS's four television stations. The market news will be on what's called "Line 21," a line on all television screens normally not seen by viewers.

The decoding devices, which cost \$250 to \$300, allow viewers to



expand the line so it is visible and covers the middle of the screen.

"We're looking at some new mass technology here via computer—AGMAN is where we'll get the market information—that will give people in agriculture access to current market information from 8 a.m. until 11 p.m.," said Carl O'Connor, an OSU agricultural economist who works for the Extension Service and the Experiment Station.

Pushbutton Market News

Conceivably, O'Connor said, Oregonians will be able to press a button on their decoder and get farm market news on the middle of their television screen while occasionally peeking at "Sesame Street," still playing on the outer edges.

Most states disseminate market news through their state agriculture departments, but Oregon law assigns the job to OSU, O'Connor noted. For years, OSU has transmitted marketing

information to the public with a noon radio show and weekly, written summaries sent to electronic and print media.

"Soon, the Extension Service plans to begin advertising the Line 21 market news service in preparation for the January start-up," O'Connor says. "In 1984, the computer and AGMAN pilot program will expand to eight to 10 county Extension offices", he adds.

More over, Pac-Man. □

Computer Bug Bytes Extension

John F. Schar

Extension Computer Manager/Consultant
The Ohio State University, Columbus

In less than 1 year, the Franklin County Cooperative Extension Office in Columbus, Ohio, went from a noncomputer office to a four computer office. Even with that, personnel frequently need to schedule the equipment for their use.

Recognizing the potential of the computer as an aid to Extension work, County Chairman Tom McNutt has aggressively stepped into the information age with purchase of four different computer systems. McNutt also hired a computer manager/consultant.

Mixing Hardware

The varied mix of computer hardware and software, chosen for this process, increased office personnel awareness of the diversified computer market and better prepared them to deal with computer-related problems in their individual program areas.

Each computer system was purchased to handle specific tasks based on its capabilities. A DECmate II computer with letter-quality printer, used as an office management tool, performs as a word processor and electronic

spreadsheet. A Digital Professional 350 computer, equipped with a hard disk, is used as a second word processor and to handle various record-keeping chores. These two systems serve as the internal office management computers for support staff.

The portability of the Radio Shack Model 4 personal computer was the main reason for its selection to handle 4-H records. A database program on this system was used during the county fair to rapidly update individual member records and to help prepare yearly reports. Bill Burmeister, county Extension agent, 4-H, is pleased with the computer's ability to quickly retrieve data for national reports and mailing lists.

The staff is also using an Apple IIe computer in conjunction with the Radio Shack computer to evaluate existing and program software for use in Extension program areas. We selected these brands because much of the existing agriculture-related software is programmed for them. Also farmers and homeowners are most likely to own and use these models.

Office Management

The planned installation of computer technology into our Extension environment was designed to be accomplished in several phases. The first phase of this process improved office management procedures. A more efficiently run office, we felt, would decrease the time agents needed for office work and increase time spent in direct contact with the public.

There hasn't been a problem in convincing staff members to use the computers. Computer use has only been a problem when there are more people wanting access than there are computers. Although the computers have been in place for less than a year, mailing lists are being easily changed and printed, form letters are personalized, and reports and forms stored and easily revised.

Educational Uses

A second area of emphasis is our use of the computer as a tool that the agent can use to better present information to the public. This phase began with a search for programs developed by outside sources.

These programs are primarily decision aids that will help a user calibrate a sprayer, choose between leasing and buying land, etc.

State Extension specialists at The Ohio State University are developing programs that are more localized and current.

Exhibits

Use of the computer as an attention-getting device at Extension exhibits has proved to be an interesting and worthwhile application. To increase the exposure of the Cooperative Extension Service and its activities, we've set up exhibits at local trade shows using computerized quizzes



On The Spot On Channel 12

Marsha Foerman
Extension Agent, Home Economics
The University of Arizona, Phoenix

and garden planning programs with great success. Our computers draw the crowds and our programs help educate people as well as inform them about the services provided by Extension. These efforts give our staff an opportunity to meet many people who otherwise would not have come in contact with Extension. During a weekend in a home and garden show over 2,400 people used the garden planning program and nearly 2,000 took the quizzes.

Computer use in Extension offices is still a relatively new idea. There is little information to tell how it should be done, and the extreme diversity of computer products on the market today make computerization decisions difficult. The idea that computers will make the job easier and faster may be valid in the long run, but our experience illustrates that a lot of time and effort need to be spent to install, learn, and properly design a computer system.

Karon Dellinger, our administrative assistant, is really sold on the overall benefits from the computer. "They really are great, but the key to their success has been having a specialist who is knowledgeable in the area of computers." A great deal of time is needed to determine the most efficient methods to use, set up the hardware and software, and train the appropriate staff members. The time and expertise needed is usually outside the realm of existing staff members.

A serious commitment of time and money must be made at the start and followed by periods of trial and error, before a computerization process such as this can be successful. □

About 2 years ago, I began a 3 to 5 minute TV spot on KPNX-TV, Channel 12. It all started when I met the co-anchor of the morning news team for KPNX at an Extension-sponsored "Bread Fair." A few months later, she called the office once again, this time in need of an interview with me on inexpensive meals for people with tight budgets.

Consumer Lifestyle Expert

Several months later, I received a call from the co-anchor again. She had been promoted to news assignment editor and was selecting experts in several fields to be on the morning news program weekly to present an entertaining, informational spot. She thought of me for the consumer lifestyle segment, which would encompass all areas of consumer topics. She invited me to choose my day and to come in for a screen test with the news director. The following day I showed up for the meeting and test. The news director was impressed with my manner during my talk with him and suggested we skip the screen test and begin the consumer spot immediately. We did. And 1 year later, two of the four original "experts" in the experiment are still on the air. Since my spot, the TV staff members have asked me for suggestions for plant experts and I've managed to line up interviews for agriculture Extension agents too.

Increases Extension Visibility

How has this TV exposure affected the home economics Extension program in Maricopa County? First of all, we have heard more from the rural areas of the state than we did previously. The spot has given us free visibility. It reached people all over the state—not just in our county. Extension home economists in other counties have called to ask the name and the bulletin the people contacting their office are requesting. Clients say they saw an Ex-

tension person on TV that morning. Last month, our office received over 230 calls as a result of the TV exposure. If I offer a bulletin during the spot, we get more calls requesting the written information than we do if I do not refer to any written material.

When I asked them how many people watch my segment (for reporting purposes), NBC affiliate staff informed me that 20,000 viewers see the spot.

When preparing the spots, I keep them current and based on questions often asked at the Extension office. I've discussed everything from controlling pantry pests in the spring to removing common office stains. Generally speaking, the food spots are the most popular.

The telephone calls I receive from satisfied viewers are a true reward. Perhaps my brightest moment was when I walked into a discount store on my day off last week. On my way out the door, I was stopped by women who had been watching me from the check-out lane. "Aren't you Marsha Foerman?" she asked. "Yes," I said, wondering when we had met before.

"I'm here to select a food processor," the lady continued. "I've told the sales clerk all the points you told me to look for on your TV spot and the clerk didn't follow what I was saying. Could you answer a few questions I still have so I can make the right purchase?" I did. And, although I know she was pleased that she made a purchase about which she felt informed, I think I received the greatest bonus that day. There is no doubt in the mind of this Extension agent—TV gets results. □

Welcome Back To Computers and 4-H

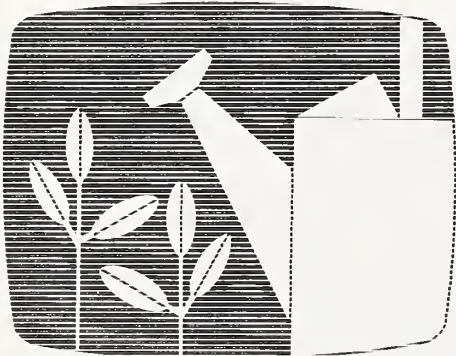
Stu Sutherland
Public Affairs Specialist
Extension Service, USDA

The 4-H Computer Project is growing by leaps and bounds. Seemingly, it was only "bound" as it started up by lack of equipment (hardware) and programs (software) to use in various kinds of computers.

The title provides you with a "welcome back" invitation as this will update an article in the summer 1982 *Extension Review* issue on Electronic Technology, pages 42-44. A part of that article dealt with Kentucky's Extension leadership in the development of member and leader educational materials which are now being pilot tested in a dozen states.

Youth Want To Use Computers

A few statistics will define the leaps and bounds being taken, using fiscal year 1980 as a base, when 4-H member computer enrollment nationwide was slightly over 3,000. That figure doubled by FY 81 to just over 6,700 members, then in FY 82 membership leaped to over 15,300—with some 13,000 of those members in the rapidly expanding Kentucky program. FY 1983 figures show a nationwide enrollment in computer projects at over 19,600, including a Kentucky increase to 14,642.



Nationwide 4-H members are learning first about computers, next about programming, and then how to use computers in other 4-H project areas such as animal genetics, crops, fashions, or gardening. Computer use takes work, and thought, and the members seem to love it.

Young people and computers could get along quicker and better with each other if they learned how to type sooner than they normally do now, as their access to computer programming is through a keyboard. In at least one state additional volunteers are teaching typing.

Most states wisely used a year or more on staff and volunteer computer training before taking the program to kids. That decision is paying big dividends in many counties where the two main 4-H uses of computers are for educational programming and program management—including computerized 4-H enrollment, publication distribution, and the preparation of award and recognition certificates and premium checks.

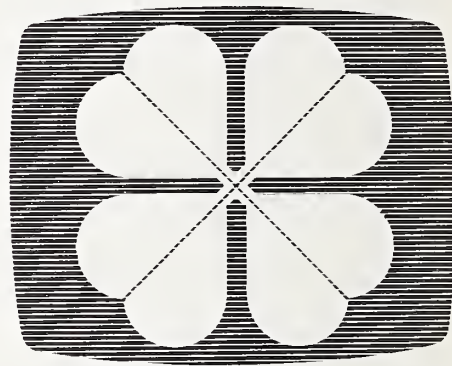
Kentucky, with their 14,642 member participation in FY 1983, reported that only a lack of computers kept them from having significantly higher numbers involved. They also noted that, "It is estimated that of the youth participants in the 75 counties reporting programs this year, that 99 percent completed the requirements."

New Leadership Development

New 4-H project areas outside usual activity areas, as the computer interest is, often involves Extension with new clientele and a different

leadership cadre. Florida 4-H reports, "Teen leaders are becoming a primary source of volunteers to teach younger 4-H members the basics of computers."

The computer project also created the need to find new types of adult volunteers. In communities and cities these new volunteers are often people associated with banks and businesses, and often in rural areas it



would be farm families who already had and understood their own computers. These new 4-H adult volunteers might be a key to the project's rapid growth throughout the country.

Kentucky's introduction to their leader's guide states it this way. "The guidance provided by you as a volunteer leader is integral to the success of 4-H computer projects. There is no need for you to be a computer whiz, though some computer knowledge, of course, would be very helpful." And, "Familiarity with the computer projects (in the Guide and members' project books) will enable you to keep a step or two

ahead of 4-H members, to communicate easily and knowledgeably, and to identify difficulties with 4-H'ers. Relax and enjoy yourself as you introduce 4-H'ers to these exciting projects."

Kentucky also recognized that various makes and models of microcomputers would be available for 4-H instructional purposes, such as the variety found in rural farm homes, and so produced four instructional manuals which were based on manufacturers' information and specifications on as many different models of computers.

A Multi-Computer 4-H Club

In Harrison County, Mississippi, 4-H'ers have organized the first state 4-H club. At club meetings, 4-H'ers learn how to program not just one computer but a number of them. Most club members have their own computer systems, but not all have the same kind.

Volunteer leaders Maurice O'Keefe, a computer engineer for Speery, and Jim DeBower, a Navy officer at Naval Ocean Graphic, teach the youth how to write programs for their own computers. Then the 4-H'ers learn how to program other members' computers.

"If I wanted a program another member had, I would have to re-write every line before it would work with my computer. Every system has a different language so I have to know both languages to translate," Patty Commiskey, 14, said.

"Learning a computer language is just like learning another spoken



language. Once you learn two, the third one is very easy," O'Keefe said. "Computer languages are the same way. Once you learn the basics, it is easy to apply what you already know to something new. By doing work on a computer, the members actually learn two things at once—how to program a computer and the information they are putting into it."

4-H'er Hisson Brennan spends hours a day playing with his computer. He writes original games, sometimes taking up to 2 weeks perfecting them. He spent 2 days programming the computer to draw a four-leaf clover. Since his computer did not have a memory capacity, Brennan wired a tape recorder to it. He stores his information on cassette tapes so he will not have to re-type the program each time he wishes to use it.

"These 4-H members will probably be using computers in college and in their careers. Not all colleges use the same computers with the same languages. By using different computers in the 4-H meetings, they are learning to adapt and change from one language to another quickly," O'Keefe said.

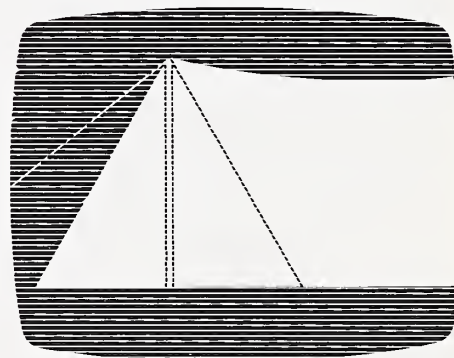
Project Materials Pilot Underway

As stated, the Kentucky computer materials are being further tested in other states using Extension Services,

special needs funding. A July 1983 workshop trained representatives from 10 of 11 selected states and 5 counties in further testing projects and programs. Evaluations from these pilot studies, now underway, will lead to any needed revisions and improvements—with subsequent nationwide distribution to all states in the summer of 1984.

Meanwhile, Kentucky cannot furnish copies to counties throughout the country as there are no funds to do so. However, they have supplied 2 sets of their materials to each state 4-H office.

Florida is one of those pilot states, and the Florida Cooperative Extension Service has provided aggressive leadership in the purchase of computer hardware to enable Extension faculty at county and state levels to link with the rest of their university's computer network. Florida staff believe that available software is the



primary limiting factor in introducing and using the microcomputer in their 4-H program for both educational as well as program management areas.

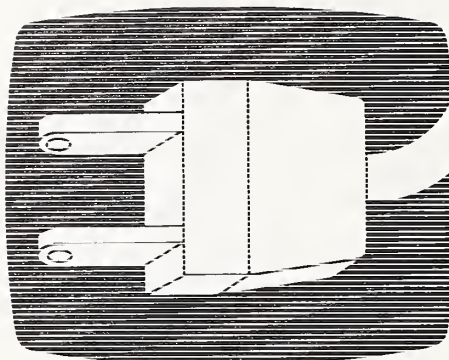
Computer Camps

Michigan is also a pilot state for the Kentucky materials. In 1983, Michigan offered—for the first time—a week-long computer camp to 4-H'ers, aged 12-16, with no previous computer experience. Thirty campers used 15 microcomputers to ensure hands-on experience for all computer instruction. These 4-H'ers learned basic computer programming and were able to write their own programs by the end of the week. Michigan specialists, graduate students, and others have been active, too, in the development of software for 4-H'ers.

The need to teach typing at an earlier age (mentioned above) was a spinoff of the 34-member club activity in Presque Isle County—a club conducted by two volunteers involving a local computer dealer. Two additional persons are now volunteering there to teach typing.

Camp situations have been popular settings for computer learning in other states. Georgia, as one example, held two camps, one geared to the 5th-7th grade level where campers learned some very basic knowledge about how a computer functions. A second camp for youth in grades 9-12 was designed as a more indepth approach.

To assure that older campers had the opportunity to practice what they learned, the camp fee included the cost of a minicomputer for take-home use. The learning of basic skills, by the 40 older campers, and



understanding of terminology and programming capability was outstanding. Over 1,700 Georgia 4-H'ers attended the two camp programs.

South Carolina state staff trained over 400 4-H youth in computer programming in county 4-H clubs and during the weeklong Amp Camp as part of the Electric Energy Program. In addition, project materials were used by county staff and schools to reach an undetermined number of 4-H and non-4-H youth.

In Alaska, a 10-day camp for 32 youth emphasized computer literacy and the development of "a comfortable working knowledge of computers." This statewide camp had three age group tracts of 8-12, 12-18, and 18 and older. The 18 and older campers also can receive credit from Mat-Su Community College, and part of that age group are employed by native corporations in villages. Instruction included basic language and programming, word processing, graphics, calculation, and use of file systems.

Camp managers, such as those at the Eastern Nebraska 4-H Center, are noticing an increase in campers' numbers due, in part, to the popularity of project or special activity camps. Youth are indicating a

strong interest in attending a camp for a specific reason, and find in-depth learning appealing to them.

A growing number of states, including Florida, indicate that some limited work in computer training is being done with 4-H parents as well as with volunteers. Florida (as noted above) had also reported that teen leaders are becoming a primary source of volunteers to teach younger 4-H members the basics of computers.

What's Ahead?

Recently, a Texas A&M computer authority said he thought millions of Americans would have access to computer networks by the year 1990. The highly successful completion level of nearly 20,000 4-H members nationwide in FY 1983, in-



dicates that young people will want to put computers to work as tools for their future.

If the year 1990 has some special meaning to computers and 4-H, perhaps we will welcome you back again then. That is, unless our computers show us some new, exciting developments during these next 6 years. □

Cost Control Through Metered Mail

David W. Dik
Assistant Director for Field Operations
Cornell Cooperative Extension Service
Ithaca, New York

For nearly 70 years, the Cornell Cooperative Extension Service used official "penalty mail" to communicate with public. Last October, we converted all of our offices statewide to the metered mail "direct accountability" system.

Expectations are that the new system will cut mailing costs by about 30 percent—\$208,000—in the first year alone. In addition, this conversion has led to many ways to improve mail processing and reduce costs.

We now weigh each piece of mail and dispense the exact amount of required postage with Pitney Bowes mailing equipment. This system replaces indicia mail and sampling, where estimated charges made by the U.S. Postal Service (USPS) were often three times the true cost of a piece being mailed.

Need for Accountability

Direct accountability is not a new concept for federal agencies. The U.S. Air Force has been using this concept since 1973, and since then has held its postage costs down. Results of recent study by the Veterans Administration, in 1982, indicated that use of the metered mailing system would reduce that Agency's postage costs by more than 21 percent.

Why did we change to metered mail direct accountability to distribute over 1.5 million pieces of First Class and Third Class mail a year? The U.S. Department of Agriculture (USDA) had mandated that within 2 years we shift to a totally accountable postage system to monitor expenses. Responsibility for using the postage allocated to each meter rests with county Extension agents and area specialists. Guidance was needed to go to a manageable system.

Prior Sampling System

Before the installation of postage meters at Cooperative Extension offices, the problem was controlling costs. Postage costs were determined from a sampling that the USPS required us to submit.

The loose sampling system for penalty mail resulted in a lack of accurate accountability of usage. This was especially true with Third Class Bulk Penalty Mail. We had an excess charge in this category of \$150,000. Based on the sample, the cost was \$62,000, which the USPS multiplied by four for billing. There was no way that we could have spent \$248,000 on Third Class Bulk Mail. We canceled our Bulk Third Class permit and went to a cash basis.

To provide an analysis of equipment needs for an entire operational system, we conducted an analysis with the help of a Pitney Bowes senior area sales representative.

Fact-Finding Procedures

The process began with a "fact finder" survey and took about 6 months. The survey was the key move toward implementation. It identified, by county and region, the mailings that were done according to classification, size, and volume. The information on each site was the basis for recommending, selecting, and ordering proper equipment.

Among the equipment ordered were electronic mail processing systems, folding machines, and inserters. About 75 percent of the counties and regional offices decided on the electronic mailing machines.

Techniques Changed

Training was part of the conversion to electronic mail systems and other equipment.

For large mailings at Cornell University, we have gone to centralized production facilities within a mailing

center, where a mailing can be ordered according to volume and designated mailing lists, processed and sent.

Our mailings are done more efficiently now, because people trained to do mailing handle the entire process.

Benefits

Now, mailing activity is monitored centrally from our offices at Cornell University to better manage allocations. Cost information is completely accurate. Information is available on who is spending postage, when they are spending it, and what they are sending by mail classification.

The greatest benefit of changing to official meter mail from penalty mail was the opportunity to examine and improve entire communications procedures and control over written materials. We foresee this continuing over the next 2 years as equipment and procedures are upgraded and management controls are improved.

Mail awareness and positive accountability are parts of communications redesign. We expect that within a year some counties will obtain upgraded, specialized equipment, not only for their own use but also to serve other, surrounding counties whose needs for such equipment is of insufficient volume to be a justified expense.

Our mandate for accountability set the scene for converting to official metered mail. We have achieved the savings and management control that we were seeking. Along with those goals, we have vastly improved the efficiency of our total mailing and communication operations. □

Camping With Computers

Judy Sorton
Extension Information Specialist, News
Department of Agricultural Communication
Purdue University, Indiana

The youngsters whispered, joked, and jostled each other as they passed through the quiet confines of the Math Sciences Building at Purdue University—just like any set of 11- and 12-year-olds might during a field trip on a hot, muggy day.

Yet, the jokes and whispers were not about sports, swimming and mischief, but reflected a more serious interest—computers. Not just any computers, but their own computers and those they were using and seeing during the 4-H computer camp sponsored by the 4-H Department at Purdue.

The 10 campers were visiting the Computing Center at Purdue as a part of their camping experience. Some 40 youngsters ages 11 to 15 attended the camp which was held during July at the A-Frame building of the Hoosier 4-H Leadership Center. This is the second year for the camp.

As programmers and systems analysts introduced them to the wonders of a large-scale computing system, one youngster compared his personal computer to those supplied by the workshop sponsors, and another challenged a new friend to write a better program than he could.

Where Do They All Go?

What impressed the young minds was not that the Cyber 205 had 1 million words (8 million bytes) of memory, nor that the center has four other large systems, any one of which could handle the needs of a small business. Rather, they were fascinated with the open door to the "innards" of the Cyber which displayed an orderly maze of wires.



Endlessly curious and completely fascinated, 10 youngsters inspected every cranny of the Computer Center at Purdue during a 4-H sponsored computer camp. They blinked at high-speed printers, peered into program mailboxes, and even checked out the noisy wiring under the floorboards.



"Where do they all go?" they wondered to each other. One girl, who said she wanted to be an electronic technician, tried to figure out how anyone could assemble hundreds of thousands of apparently identical wires and still have everything where it was supposed to go.

"The wires are color-coded for easy identification," tour leader, Daniel E. Hartley, manager of Business Systems, Purdue University Computer Center, explains. However, that didn't help the man who originally assembled the prototype. After he had worked for several years assembling the machine without a mistake, he

made one small error and it was discovered that he was color blind.

Strange sounds came from the floor, said one youngster, as Hartley explained that the Cyber was one of the most powerful computing tools available. "What's under there?" the camper questioned as he explored the floorboards with his bared toe. An observant youngster found the answer by peering beneath a removable floor panel. Wiring and cooling coils for the center had been laid on concrete floors. Then walking floors had been built over the wires and cables—causing a strange sound as the sneakered feet plodded over them.

Learning Fundamentals

Programs and other materials are printed out in a semi-sterile area in the center where only a chosen few are allowed access, the campers learned. Work is returned to the owner via a mailbox system. Each mailbox, to the great interest of some campers, has a clear, plexiglass front. Two campers, in the rear, were attempting to critique one program through the plexiglass.

The campers spent the week learning the fundamentals of computer programming and operation. "The camp," says Helene Baouendi, statistical computer analyst and 4-H state specialist and camp director, "stimulates interest in computers through hands-on-experience and gives campers an opportunity to demonstrate their creativity and to share mutual interests with friends."

Is a camp planned for the summer of 1984? Certainly! Back in 1982 registration was slow. But, almost as soon as the 1983 camp was announced, enrollment was filled. Youngsters find it's fascinating to camp with computers! □

Computerizing The Peach State

Melba G. Cooper
Extension Community Development Specialist
The University of Georgia, Athens
and
David B. Adams
Extension Entomologist, Pest Management
The University of Georgia
Rural Development Center
Tifton, Georgia

We knew we faced a real challenge with Georgia Extension Director Tad DuVall asked us to “do something with computers.”

DuVall wanted computer training at our biennial state conference, and it was up to our committee to produce it. That’s when we realize that hardly any of us “spoke” computer.

After recovering from this initial shock, we plunged in, to learn about terminals, modems, floppy disks, and the like. The computer language was tough but our real test was to plan a computer workshop that:

- included a professional staff of about 700 county agents and state staff;
- offered something for the computer experienced, as well as the inexperienced;
- crossed the four program areas of agriculture, home economics, 4-H, and community and rural development;
- squeezed into available facilities;
- fit in between seven other non-computer workshops; and, most importantly,
- fostered a positive attitude toward computers and their application.

Plan Unfolds

A pre-conference survey of Extension people brought in an 83-percent return rate statewide. Almost without exception, everyone was interested in some phase of computers.

Armed with this information, we began working with the seven-member staff of the newly formed Computer Services Department. We had limited time for a workshop (we finally allotted 1 hour of hands-on training for everyone at the conference) and we had to include a representative sampling of software from all four program areas: “BestCrop” for Agriculture, “Budget Planner” for Home Economics, “ES237” for 4-H, and “Solid Waste Analysis” for Community and Rural Development. Along with samplings from program areas, we selected varied machine applications, from graphics to spread sheets, decisionmaking to file management. We also enlisted four program specialists to be responsible for the selected software.

Training the Trainers

Our task was broad: to offer a meaningful workshop to 700 people in a day’s time. Altogether, we needed 50 instructors with computer skills, certainly, but also with communications skills. And we needed to obtain trainers from county, district, and state levels, making sure no geographic or program area was left out.

The Computer Services Department developed a detailed training package for each trainer. This “care package” contained computer disks, an outline of key points with a suggested step-by-step instructional script confined to a 60-minute time frame, and supplemental materials and printouts of the four software programs. Three weeks before the conference, we mailed this training package to the trainers for their review.

Hardware Requirements

We set up 20 work stations to accommodate 6 people and 1 trainer each in a large exhibit hall, making it possible to serve 120 people per hour.

Ten IBM and ten Apple microcomputers, each with two disk drives, checked for software compatibility, represented the hardware requirements.

Also, complete county hardware packages for IBM and Apple were on display. County agents could see firsthand the approved hardware package available for purchase.

Promoting Computer Awareness

To avoid mass confusion, we gave workshop participants a numbered ticket corresponding to the 20 work stations when they entered the exhibit hall. We also had to schedule 50 trainers for only 20 work stations.

The trainers understood the importance of starting and stopping each session on time. The Computer Services Department staff monitored each station’s progress and assisted with all technical problems during each workshop. All work stations were stocked with supplemental handouts and printouts to accompany each session. Also available to everyone was a copy of the updated Georgia Extension Computer Software Directory.

Other Pluses

To assure that everyone arrived at the conference with the right (computer) frame of reference, computerized message centers welcomed them at the motel lobbies. The Computer Services Department staff developed a program containing personal messages for everyone—dignitaries, guests, newcomers, and retirees.

Computer exhibits provided a highly successful complement to the computer workshop. As a matter of fact, the exhibits almost paralleled the

popularity of the food lines, according to John Bentley, Extension communications department head at Fort Valley State college, who chaired the Exhibits Committee. The time designated for exhibits had to be extended by several hours. Bentley recalls a statement made by Director Tad DuVall that, in the history of the state's Extension conferences, he had never seen so much participation and interest in exhibits. Some correlation may have existed between popularity of the exhibits and the fact that some lucky colleague won a home computer for completing the step-by-step exposure they offered!

To qualify for the computer drawing, each person had to present proof of actually having run four of the eight available programs. A staffer at each exhibit signed the participant's registration card upon completion of each program. The eight computer instructional programs included employee fringe benefits, 4-H tutorial packages, cloverleaf training on table setting, lifestyles, vegetable gardening, food costs, soil testing results, and computer graphics.

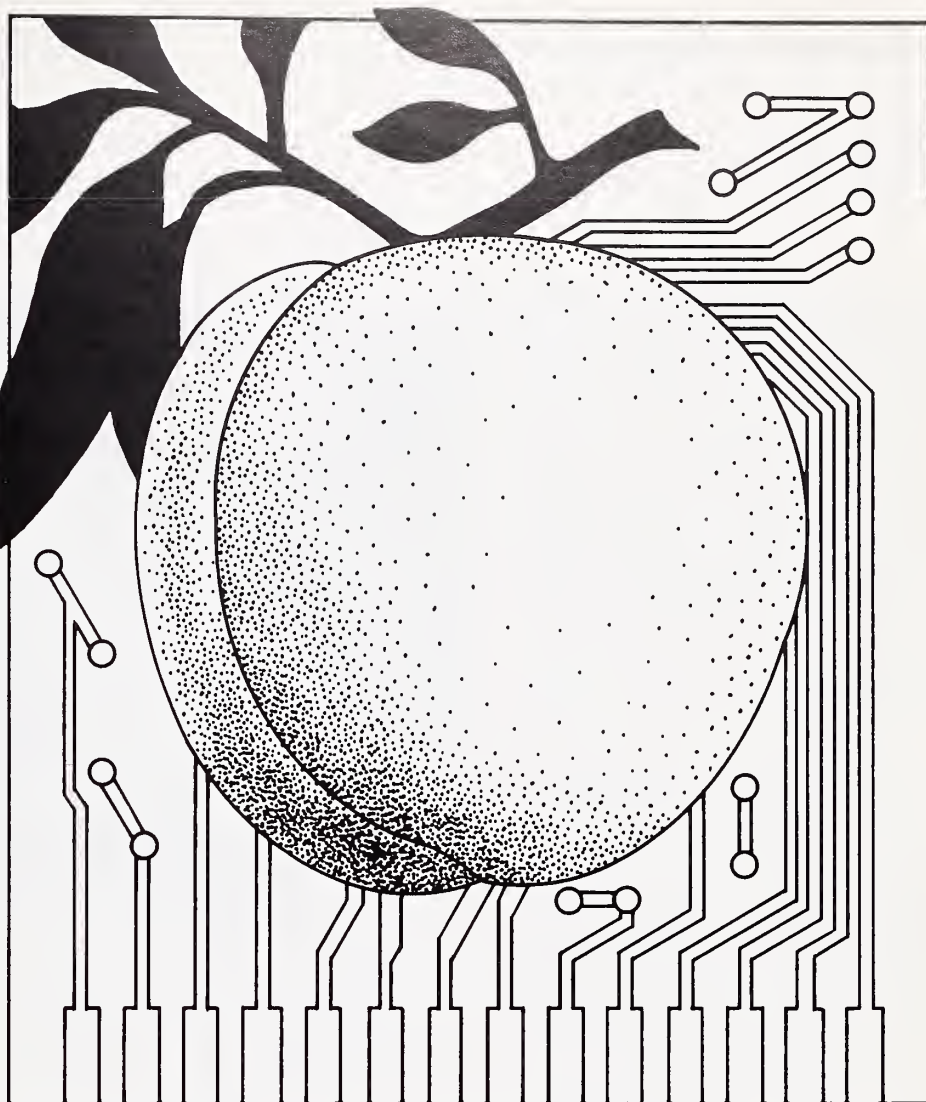
The Bottom Line

Remember the statement about heroes or outcasts? Well, all those who put in the long hours in this computer venture were well rewarded by their peers. On a scale of 1 to 5, the statewide evaluation ranked 4.3 on relevancy and usefulness for the computer workshop. Some of the remarks taken from the evaluation forms were:

"Need more in '85."

"Best and most practical session ever at a conference."

"Great interchange with agents and specialists."



"Excited about computers—finally!"

"Impressed with extent of computer knowledge among our ranks."

Director DuVall states: "I was proud and enthusiastically satisfied with the response of our colleagues to the computer awareness session at the Extension Conference. This response reflects not only the degree to which the committee was on target with the manner and method chosen to present this topic, but the dedicated effort of all those co-workers directly involved in this creation of computer awareness and building of attitudes."

Ripple Effects

Dr. Walt Wilson, assistant director for management operations, monitors financial impact and use of computers within Georgia Extension. He observes, "The potential of the microcomputer as an educational tool for Extension was fully realized for the first time by

literally hundreds of Extension workers. The interest and excitement generated by the computer workshop at the Extension Conference produced positive action by several county directors. Within 7 weeks following the conference, 16 additional counties decided to purchase microcomputers. This brings our total to 53 for county Extension offices and 30 for state staff offices." According to Wilson, Georgia Extension has spent \$384,500 for microcomputers for the first 6 months of this fiscal year.

So, in 1983, the Georgia Extension Service State Conference proved to be the place for many of us to learn what a challenge and what a help the computer can be. □

"Don't Drive Drunk!"

Bud Gavitt
Extension News Editor
The University of Connecticut, Storrs

Members of the A.P.P.L.E.S. 4-H Club gave their parents and other motorists a special gift last Christmas—a public service announcement on the potential dangers of drinking and driving.

The Waterford, Connecticut, youth wanted to get involved in an issue that was meaningful to them, according to their volunteer leader, Martha McMahon. "We wanted to live up to the letters of our club which stand for 'Awareness to Promote Peace, Life, Environment and Self,'" says McMahon.

So the six 9- to 11-year-olds decided to give their parents a Christmas present via a powerful message on drinking and driving—a problem which claims 28,000 lives in the United States each year. As 4-H'ers Melissa and Bethany McMahon, Meridith Doyle, Becky Grew, and David I and his sister, Shiao-Lan, put it, "We wanted our parents to be here for Christmas."

To finance their project, the 4-H'ers grew pumpkins and gourds in McMahon's backyard. The pumpkin plants died, but the gourds flourished. Members harvested the gourds, piled them in a wheelbarrow, and sold them door to door.

4-H'ers Get Helping Hand

Armed with their hard-earned money and a crusading desire to compose a life-saving message, McMahon went to Troop E of the State Police Barracks in nearby Montville to enlist a trooper for the production. She and Lt. Robert O'Shaughnessy, the commanding officer, ultimately agreed on a 30-second public service announcement.

Impressed with the club's initiative and concern, O'Shaughnessy requested the assistance of Beverly and John Reilly of Connecticut Video Productions in taping the spot. The



video crew, an ambulance service, Connecticut College, a church, hairdresser, state police, and others volunteered time, professional services, and facilities.

The 4-H'ers developed the format for the entire message and even acted in the public service announcement, with help from the state police and the Reillys.

All agreed that the spot should feature an illusion of emptiness without using dialogue. Scenes include a sad-eyed child skating alone, a child rolling cooking dough alone, a trooper who picks up the liquor bottle at an accident scene, and a trooper who brings unhappy news of a parent's death to a girl at home. The spot concludes with these words on the screen: "To: Grownups. From: The Kids. *Don't Drive Drunk.*"

Message Exceeds Expectations

The message, originally intended to be shown to the members' parents and at 4-H fairs, exceeded the club's expectations.

Reporters publicized the club's intense concern about drunk driving in

the *Norwich Bulletin*, a morning newspaper; *The Day*, (New London), an afternoon paper; and the *Niantic News*, a weekly paper.

In addition, the spot was shown on television stations WTNH, New Haven, during a 6 p.m. newscast; WVIT, New Britain, in its "Good News Break"; and WTXS, Waterbury, on its public affairs program. The children were interviewed on WTXS's weekday "live" program for young people on how and why they made this videotape.

Nationally, the spot attracted inquiries from the "Good Morning America" and the "Phil Donahue" television shows.

How much did the public service announcement cost to produce? The Connecticut Video Productions charged the club \$43.20—the money they earned selling the gourds—to make the spot. The remaining expenses were considered a gift by the video company to the motorists of Connecticut. □

Send Them Software

*Dick Levins
Extension Farm Management Specialist
Institute of Food and Agricultural Sciences
University of Florida, Gainesville*

The land grant university system has traditionally been a supplier of high-quality publications on subjects within its mission. The introduction of the microcomputer has raised the question of whether computer software (programs) should also be distributed as part of our efforts to meet our client's information needs. Some universities such as Mississippi State and Texas A&M have acted positively to provide for software distribution, but many land-grant schools have yet to do so.

Computer programs written at the University of Florida's Institute of Food and Agricultural Sciences (IFAS) have been distributed to the general public on a pilot basis for the last 8 months. During this period, over 100 orders have been filled.

Choosing Software Topics

Software handled by the distribution unit is intended for the use of clientele in commercial agriculture, 4-H, and home economics. Software submitted for distribution must therefore be of some interest and usefulness to at least one of these clientele groups.

The question of which subjects are best suited to software development cannot be answered except on a case-by-case basis. Generally, software should not directly compete with programs developed.

So far, some of the software topics are: grain marketing strategies, nursery business analysis, new citrus grove feasibility, and trickle irrigation design. Under development are programs in home economics and 4-H.

Recognition for Writing Software

If a software distribution unit is to succeed, the question of professional recognition must be adequately addressed. With IFAS Extension, no recognition is currently provided for writing software.

There is, however, a clearly established method for recognizing the production of a manual to describe software. This manual, or "documentation," can be published through normal channels and treated the same as any other publication for professional recognition.

Under no circumstances is software distributed which does not have a published manual. The manual covers what the program does, how to use the programs, and gives some indication of the methodology.

The manual must be published through recognized channels and reviewed and signed off in the normal ways followed by the professional's unit of IFAS.

Hardware and Software Standards

IFAS does not endorse one brand of microcomputer over another for applications likely to interest the distribution unit. Therefore, software is accepted for a variety of computers.

Different brands of computers typically use different operating systems. (For example, Radio Shack uses TRSDOS, Apple II computers use DOS 3.3, and IBM computers use PC-DOS.) The unit now supports programs in whatever operating system the authors choose for development.

So far, the programs in distribution have all been written in BASIC. BASIC is relatively easy to learn and is well supported on all common microcomputers. Authors are encouraged to experiment with other computer languages or to use certain applications development packages such as spread sheet programs or data base management programs. However, their language choice must be one which can be technically supported by the distribution unit.

Handling of Orders

Orders are processed through a central unit at the main campus in

Gainesville. An order form can be obtained through any county Extension office. The order form, along with a check for \$15 per program ordered, is returned directly to Gainesville. It is not necessary to send a diskette with order requests. Inhouse and educational orders are currently filled at no charge, and out-of-state orders are handled under the same procedures as in-state orders.

IFAS copyrights its software to ensure that others do not infringe on its right to distribute its own software. IFAS does not, however, in any way try to prevent copying or other third party use of its programs so long as IFAS is properly credited.

Continuing Support

The distribution unit operates in such a way as to minimize the program author's involvement in routine distribution tasks.

A customer data base is maintained by the distribution unit so that everyone who has ordered a particular program can be advised of updates.

"Unofficial" distribution of programs, that is, copying programs by faculty for direct distribution to individuals, is not strictly prohibited.

Linking Policies

Technology changes, and so must we if new challenges are to be met. Distribution policies for microcomputer programs must remain flexible. The approach of closely linking software to more conventional publications policies appears to be promising.

Those desiring further information or sample order forms may write:

Farm Computer Support Group
c/o Dean John T. Woeste
Florida Cooperative Extension Service
1038 McCarty Hall
University of Florida
Gainesville, FL 32611 □

Invite A Computer Home

Margaret P. Ezell
Extension Family Resource Management Specialist
The Pennsylvania State University, University Park

As technology continues to invade the office, the use of computers for office management, communication, and education is bound to carry over into the professional's home. Pennsylvania Extension is currently in the midst of an effort to place computers in every county office. The state legislature is being asked for a one-time \$2 million appropriation to provide computers for each county, state specialist, and administration. The bill also includes funds for a computer communications network to link all offices and for the purchase and development of software programs. Several counties have already purchased their own Apple II or ILe microcomputers, being unwilling to wait until the legislature acts.

Kathy Hostetler, county Extension home economist, works in one such county. The Cambria County Extension office purchased its computer a little over a year ago. Because the office purchased the computer, changes have taken place in Kathy's family life as well as in her job.

Hostetler has been an Extension home economist for the past 16 years. She and her husband, Ron, and their two children, Sandy, age 8, and Allen, age 5, live in Ebensburg, Pennsylvania. Ron Hostetler is a county agricultural agent, who has worked for Extension the past 19 years.

When the Apple ILe arrived in February 1983, most of the staff steered clear of it, hoping they wouldn't display their ignorance in front of others. Kathy Hostetler decided the only way she was going to learn how to use the microcomputer was to steal time away from other things. Hostetler chose to take the office computer home three

times while she was learning to use it. While the computer was in her home, she taught her children, then ages 7 and 4½, to use it too.

Computer of Their Own

The Hostetler family's interest in the computer increased to an extent that they decided to purchase one for their home in April 1983. They found it best to plan the purchase of such an expensive item. Thanks to a policy that allows all staff to obtain the University's discount price, the Hostetler family didn't pay full price.

As they planned their purchase, the Hostetlers decided that many of the software packages they needed for work-related tasks would be available from the office. They also decided that a printer was unnecessary since they could use the office's, but within a month, it became apparent that they did, in fact, need their own printer and more software programs.

The computer has given the entire family an opportunity to learn and explore together. Kathy Hostetler comments that "it may be a disadvantage for the family when adults are not exposed to the computer but the children are. Adults may develop a complex about using the computer, in some way forcing a generation gap."

Automated Ancestors

As she worked with the computer at home she found it an intricate puzzle that she wanted to master. During one nightly session, Hostetler found that the computer was perfect for producing a genealogy newsletter to update everyone on current family happenings. This use gave her a reason to master the word processing program to write the letter, the data base program to produce a birthday calendar, and the mailing list program to manage all family addresses.



As her work with the computer proceeded, uses for it grew. She developed a recipe book for her family and the livestock sale catalog for the county fair.

At first, the family member using the computer encouraged other family members to join them. The space set up for the computer had to be enlarged so that more than one person could participate.

Children Use Computer Too

The children love the computer. Sandy is aware that she knows something that most other children don't, and she gets a shy satisfaction from having this additional knowledge. Kathy and Ron Hostetler have not yet noticed their children playing one-upmanship with their computer knowledge. Kathy Hostetler learned in a class she took on the family that it is common for older children to want to keep their computer knowledge to themselves.

Last spring, Kathy Hostetler took the family computer to Sandy's first grade classroom. The school had the computer for a week, and two classes made extensive use of it during that time. The Hostetler's computer was the only computer the school had access to last year, and Sandy and her classmates are already asking when the computer will come to school again.

Helping the Folks

Sandy and Allen are not learning to program but they are using educa-



Computer education often continues at home! Kathy Hostetler, Extension home economist in Cambria County, Pennsylvania, purchased a unit for home use after her office received one, and then encouraged her entire family to participate in the world of "bits" and "bytes."

tional programs. Allen quickly learned that when the program Mom or Dad was using bombed, they got upset, then pressed the reset button. Allen started coming over to press reset for his parents. Since that time he has learned to use the computer. Even though he can't read yet, he can tell which disks he can't use by the Mr. Yuk (poison warning) stickers on them.

Ron Hostetler may not have initiated the purchase of the family's micro-computer if Kathy Hostetler had not been so intrigued by it. He uses it to set up spreadsheets for farm analyses, and he learned about these in Extension in-service training.

Training the Staff

Since the office obtained its computer, Kathy Hostetler has been conducting educational awareness workshops for 4-H and the public on both the regional and county levels. The workshops have focused on helping families decide if they want or need a home computer and what to look for if they decided to make a purchase.

In her subject matter areas, she has been using a spreadsheet program to teach clientele about credit and loan amortization. Recently she was selected as one of 10 county agents to participate in 20 days of intensive training to become a regional computer support agent. The training was initiated by Penn State Extension's computer program staff, and was

designed to train key personnel in each region who could train other staff to use the computer in their programming.

Hostetler notes the reactions of other staff members as they interact with the computer. Many who are resistant at first later come around to see the computer as a tool for promoting Extension's message, and they are willing to learn to use it. In this case agents and administrators are learning to be proactive.

Computer Tips

- *Usage:* Extension staff have little time in their schedules to learn to use a computer. They should not be made to feel as if they are goofing off if they use office time just to experiment. Allowing staff to take the computer home lets them learn to use it at their own pace and to involve their family as well.

- *Office Software:* Office software should include games and educational programs as well as office management programs. They allow the user to learn the basics about the machine and to gain some mastery of the computer before becoming overwhelmed by the intricacies of the more difficult office management software.

- *Office Hardware:* More than one computer per county office will be needed. As staff become competent at using the computer, they will find more uses, and competition for the hardware will be a problem. One computer should be available for office management, a second for educational use (workshops, preparation of educational materials, etc.). One computer per Extension staff member is ideal.

- *Training:* Training for staff members should cover general use of the computer, then specific software. During the first year, Extension staff need to plan to reduce their program load. Trying to learn to use the computer and to carry on the same level of programming can be frustrating.

- *Personal Purchase:* If possible, arrange a good discount policy for employees to purchase compatible computers. The discount plans should also be available for software purchases.

- *Changes In Work Patterns:* In a short time many staff members will have purchased their own computer and Toffler's forecast of the electronic cottage, people working from their home, will be fact instead of fiction.

- *Technical Support:* Provide immediate support for any questions or problems. Regional consultants are helpful when travel distances are great, but they need to be well trained so they can answer questions or they will never be asked again. The agent will prefer to contact the state computer support staff directly.

- *Applications:* Give staff time to develop applications that will be useful in their day-to-day work. Many applications should be developed statewide and distributed to all offices. Most Extension agents will never be programmers, just users. They need time to learn to use general-purpose software such as word processors, spreadsheet programs, and data base management programs in their particular subject matter area, along with subject-matter specific programs. □

Newsletters— Consolidating Cuts Costs

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Extension staff in seven Oregon counties have switched to consolidated newsletters, beginning with Linn County in May 1982.

Agents in these counties report much interest from colleagues contemplating similar change. Linn staff chair Hugh Hickerson says he has had requests for information from as far away as Michigan. Lincoln County staff chair Evelyn Brookhyser states inquiries were so numerous she wrote, "One County's Experience with a Consolidated Newsletter."

"I didn't have time to respond individually when other agents asked for

information," Brookhyser continues. Her summary describes not only the newsletter itself, but equipment she found necessary to produce it.

Counties Stimulate Change

The move to unified letters in Linn and Lane Counties brought change in other counties.

"We liked what Linn and Lane were doing and decided a unified newsletter would give us a better image—at no additional cost," explains Marvin Young, staff chair in Deschutes County. "In Lincoln County, the impetus came from our Extension Advisory Council chairman," explains Evelyn Brookhyser. "He learned about Lane County's newsletter from

a member of the Lane advisory council." She and her colleagues in the Lincoln County office think their new *Coast Ranger* newsletter is doing a good job, but they're interested in doing a more formal survey.

Young says the Deschutes Extension Newsletter is accomplishing its purpose—and then some. The newsletter is set in type at the Redmond newspaper. "We think we have better readership," Young says, "They read more of what we write and read more about all facets of Extension."

Focus of Future Issues

Production schedules and focus on future issues of Extension Review are listed below:

SUMMER 1984, "Food and Fitness," article deadline June 1.

FALL 1984, "Agricultural Production," article deadline August 15.

WINTER 1984, "Local Government," article deadline November 1, 1984.

SPRING 1985, "Marketing," article deadline February 1.

SUMMER 1985, "Linkages with Other Agencies," article deadline May 1.



Jackson County's first issue of *The Extender* appeared February 1, 1984. But already Ron Mobley staff chair, says he is pleased. The newsletter replaces six others, it does so without increasing costs, and it promotes better coordination among staff members than ever before!

Assignments Treated Differently

Counties assign newsletter responsibility differently. Editorial duties rotate among agents in Jackson and Deschutes. In Linn, whe Hickerson and Betty Wallace are the only agents, they share responsibility for every issue. In Lincoln, 4-H Agent Susan Roy edits every issue.

In Jackson, pages are allocated by program agreea: one each to 4-H youth, home economics, energy, forestry; two for agriculture; the back page is reserved for a calendar of Extension events. The editor makes decisions about front page content, with advice from colleagues. In Deschutes, each staff member has a page from program information, and the back page is a calendar.



Consolidated newsletters are a recent Extension trend in seven Oregon counties. Here, Linn County Extension staffers prepare final newsletter copy and work with the local typesetter choosing formats and overseeing makeup.

Adaptable To Special Situations

Faced with a vacant staff position—and possibly a blank page or two—Young enlisted help from Malheur County Agent Helen Conner and Human Development Specialist Marcelle Straatman. They reduced elements of Straatman's course on stress to articles to appear monthly during the vacancy period.

Hugh Hickerson agrees that the newsletter is an effective medium for educational messages. He says it has helped fill the program void created when budget cuts translated to severe staff cuts. "We rely on the newsletter as a vehicle for educational information."

Production Costs Vary

As production and printing techniques vary, so do costs. In Deschutes, secretaries type copy into the Redmond newspaper's typesetter. Printing costs run from \$150 to \$175 monthly for about 1,500 copies—depending on the amount of art and the number of photos used.

Lincoln County has opted for typed, camera-ready copy. They purchased a Xerox Memowriter typewriter to produce finished text; their produc-

tion costs run about \$160 monthly, including photos and headlines (2,000 copies).

In Jefferson County, regular monthly press runs of 1,500 copies cost about \$400. Twice-yearly mailings (annual report issue in January and prefair issues in July) go to all post office boxholders and rural routes. That boosts the press run to 5,000 copies, but the printing bill goes up only \$30.

In Linn County, a small print shop provides copyediting, headline writing, and layout services, and charges run about \$450 per issue (2,600 copies). Total cost is less than when the county was producing several newsletters.

In Jackson County, 6,000 copies cost about \$470 for typesetting, art, and printing.

All agents with experience with unified newsletters say they recommend this approach to other counties considering one.

Mobley says it is too early to assess the Jackson County experience, but he points out that after the first issue people were calling to be sure their names and addresses were on the list for future copies.

Brookhyser is enthusiastic about Lincoln County's experience with the *Coast Ranger*, but cautions other staffs considering the move: "It is a county staff decision. If you're going to do a unified newsletter, then you have to do it well. That means a total staff commitment. Without it, you simply can't make such a newsletter succeed." □

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